Exploring mainstream Foundation Phase teachers' misconceptions of Attention-Deficit/Hyperactivity Disorder

by

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ABSTRACT

Attention-Deficit/Hyperactivity Disorder (ADHD) affects about eight to ten percent of the South African population. Teachers are often the first to recognise if a child is hyperactive or inattentive as ADHD affects a child's functioning most strongly in school. However, teachers are not trained to recognise ADHD and how to manage it, and many have misconceptions about the disorder. The purpose of this study was to explore mainstream Foundation Phase teachers' misconceptions of ADHD. The teachers' views of ADHD and appropriate implementation of strategies to use in the classroom were examined. This study was conducted using a generic qualitative research design. Twelve mainstream Foundation Phase teachers completed an online questionnaire and participated in semi-structured interviews. Thematic content analysis was used to analyse the data and identify the themes that emerged. It was found that most of the teachers had a sound knowledge of ADHD; however, they were not informed of all the criteria used in diagnosing or identifying a child with ADHD. It was found that most teachers preferred medication as a method of intervention despite their knowing there were other factors which influenced a child's behaviour. Teachers still had misconceptions about ADHD and how to treat it. Educational psychologists working in schools need to run workshops and conduct professional development seminars in order to better equip teachers and dispel their misconceptions of ADHD. Educational psychologists also need to be mindful of a child that has been referred by a teacher for an assessment because they suspect ADHD.

Keywords: Attention-Deficit/Hyperactivity Disorder (ADHD); Foundation Phase; generic qualitative research design; mainstream school; teacher misconceptions; thematic content analysis; qualitative research

LIST OF ABBREVIATIONS

APA – American Psychological Association

ADHD- Attention-Deficit/Hyperactivity Disorder

DoE – Department of Education

DSM- Diagnostic and Statistical Manual of Mental Disorders

EWP6- Education White Paper six

HPCSA – Health Professions Council of South Africa

SCT- Sluggish Cognitive Tempo

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1.1 INTRODUCTION

Chapter one provides a brief background of the study. It includes the rationale and problem statement, as well as foregrounding a gap in the current research. This outline highlights important questions contributing to the aim of the study, as well as the research question and research aim.

1.2 BACKGROUND

In South Africa, inclusive education, as outlined in the *Education White Paper 6* (South Africa, Department of Education [DoE], 2001), is about the transformation of an education system which was previously divided into 'special education' and 'mainstream education', into one integrated system which embraces equity and quality. Inclusive education is also about the "acceptance of equal rights for all learners, as well as social justice and transforming the education system to effectively respond to and support learners, parents and communities; this is done by promoting the removal of barriers to learning and participation in that education system, in an incremental manner" (DoE, 2015, p. 7). The South African inclusive educational system has opened all schools to children with varying abilities and needs. Teachers face significant challenges in coping with learners who have diverse and special needs, including, those with Attention-Deficit/ Hyperactivity Disorder (ADHD). Even though ADHD has a long history of the characteristic symptoms being understood, teachers often lack even a basic knowledge and understanding of ADHD, including its aetiology, treatment and classroom management options.

"ADHD is the most recent diagnostic label used to describe people who have significant problems with attention, hyperactivity, and impulsivity" (Kleynhans, 2005, p. 1). ADHD is also seen as the most frequently diagnosed psychiatric children's disorder (American Psychiatric Association [APA], 2013; NIH Consensus Statement, 1998) This severe disorder affects eight to 10 percent of the South African population. Among children in South Africa,

ADHD is the most prevalently diagnosed psychiatric disorder (Meyer, 1998). Thus, it can be said that there will be at least one child in every classroom who has been diagnosed with ADHD (Kleynhans, 2005).

ADHD is a medical condition which is caused by a neurological dysfunction in the brain; this affects a person's ability to concentrate and maintain attention when performing tasks (Gould, 2005). Specific chemicals in the brain are necessary to carry messages along certain pathways. When there is a deficiency in these chemicals, the messages get interrupted and do not reach their intended destination. According to the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM 5), for a child to be diagnosed as ADHD, a child must have at least six symptoms from either (or both) the inattention group of criteria and the hyperactivity and impulsivity criteria. ADHD is characterised by clinical impairment in a child's attention and activity level, as well as their impulse control; these can all cause behavioural, social and academic problems at school (Barkley, 2006). "No single psychological test can show that a child definitely does or does not have ADHD" (Decaires-Wagner & Picton, 2009, p. 22).

1.3 RATIONALE

In my experience as an educator and academic support teacher at a mainstream, private school, I have noticed an alarming trend of students being 'labelled ADHD' by teachers, without the collaboration of medical practitioners and psychologists. While the teacher is the person who sees a student in a concentration-demanding situation, they could mistake a child's anxious behaviour for inattention. Children spend most of their time at school where added demands are placed on them. In her chapter on stress in children living with ADHD (Decaires-Wagner & Picton, 2009), Fourie (2009) explains how, "timetables, stationery, uniforms, school bags and sports bags need to be organised and looked after which can be a difficult task for any child" (p. 161). Children are expected to abide by the rules, have social acuity and behave in a way that does not disrupt their peers or the learning process. "The demands of coping with the school day may itself be stressful. Children with ADHD often have difficulty changing classes, remembering books, and arriving on time. Continual scolding by teachers adds to the stress burden and further erodes the child's self-esteem" (Decaires-Wagner & Picton, 2009, p. 161). Most children with ADHD are born with the disorder, but it sometimes goes unnoticed until

they attend school and are unable to focus on the academic tasks at hand. The teachers are often the first to recognise when a child is hyperactive or inattentive. However, not every child who is overly hyperactive, inattentive or impulsive has ADHD. The diagnosis of ADHD is based upon several factors, namely, a combination of that child's history, parent and teacher observations, psycho-educational results, as well as rating scales designed to assess ADHD (Decaires-Wagner & Picton, 2009). When children are labelled as ADHD, there are potential negative and positive outcomes (Ohan, Vissor, Strain, & Allen, 2011). Therefore, it is imperative that teachers do not casually label a child as having ADHD, as this can be misleading and stigmatise the child.

It is crucial that there is collaboration between schoolteachers and the different health systems to ensure that children with ADHD are efficiently diagnosed, managed and treated (Berger et al., 2015). The first goal of this study was therefore to explore teachers' misconceptions of ADHD. Graeper (2010) identifies that "very little training about ADHD is part of teachers' pre-service curriculum" (p. 69). Lack of knowledge can leave room for misconceptions that will affect the teachers' perception of their capacity to work with a child diagnosed with ADHD and their perception of the child's ability to perform academically and behaviourally (Ballentine, 2015). The behaviours associated with ADHD may be first observed or be most troublesome in a classroom setting. Teachers are involved in making the initial referral for a special education evaluation nearly 60% of the time (Snider, Frankenberger, & Aspensen, 2000). This shows that teachers are a critical part of the process for the initial screening for ADHD. Considering this, it is essential that teachers are "knowledgeable and objective if they are to play a key role in the diagnosis" and education of students with ADHD (Snider, Busch, & Arrowood, 2003, p. 47).

Due to the ability of children diagnosed with ADHD to "over-focus on something that is of great interest or is highly stimulating, many untrained teachers assume that this ability to concentrate negates the possibility of ADHD" (Mahar & Chalmers, 2007, p. 2). This is especially so when "they see that these children are able to pay attention while working one-on-one with someone, doing something they enjoy, sitting and playing an electronic game or watching TV for hours on end" (Mahar & Chalmers, 2007, p. 2). The second goal of this study was to examine the relationship between the teachers' misconceptions of ADHD and their intervention methods. It is a concern that teachers who lack knowledge about ADHD may not

always discern or may even not notice behaviours that signify that a child needs assistance; the information they provide to doctors may also prove unreliable when it comes to the effects of medication (Berger et al., 2015). It is therefore vital that teachers can recognise the characteristics of ADHD and are able to implement the necessary interventions.

According to Berger et al. (2015), previous studies have found that teachers have limited knowledge about ADHD and that they tend to have considerable misinterpretations about its nature, course, causes and outcomes. Berger et al. (2015) found that surveys conducted with teachers over the last two decades, showed that they still have little information about long-term aspects of ADHD and its treatment, although they have a general knowledge about the symptoms and the diagnosis of ADHD (Berger et al., 2015). In order to possibly enhance the diagnostic process, as well as improve the efficacy of medication management, an effective partnership between teachers, psychologists and medical practitioners is essential. Therefore, identifying teachers' misconceptions can provide important information about the kinds of information teachers are lacking, so that training programmes can be reassessed. It stands to reason then that "increasing the knowledge of teachers about ADHD and its treatment may increase appropriate referrals for ADHD and improve coordination of interventions among teachers, physicians and parents" (Berger et al., 2015, p. 312). It is my premise that many teachers have not been adequately trained to identify children needing referrals for ADHD treatment intervention.

1.4 PROBLEM STATEMENT

This research developed from my professional and personal interest. Having worked in the academic support unit with the Foundation Phase teachers for some time, an interest in the teachers' misconceptions of learners with ADHD arose. Of specific interest to me was how the conflicting misconceptions influence the participants' methods of teaching and dealing with these learners who have been diagnosed with ADHD. When children do not concentrate in class or appear to be daydreaming, the teacher's will often comment that they think the child may have ADHD. This poses a problem as they have not looked at any underlying reasons why the child may be behaving this way. A child may have not had a good night's rest, they may have not eaten breakfast or there could be turmoil in the home. All these can contribute to the

child not paying attention in class. The aim of this study was to seek a comprehensive and interpretive understanding of the teachers' misconceptions of what ADHD is and how they as teachers 'diagnose' the learners' sets of symptoms.

1.5 RESEARCH QUESTION

When considering the above discussion, the research question of this study was: "What are mainstream Foundation Phase teachers' misconceptions of learners with ADHD?"

1.6 RESEARCH AIM

The aim of this study was to investigate the misconceptions of mainstream Foundation Phase teachers of ADHD learners. Specifically, I wanted to investigate the attitudes of the teachers who identify children with ADHD.

1.7 CONCEPT CLARIFICATION

The reader needs to gain optimal benefit from the research process; thus, the following concepts will be explained:

Attention-deficit/Hyperactivity Disorder (ADHD)

"ADHD is a disorder that is characterised by a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically seen in individuals at a comparable level of development" (APA, 2000, p. 85).

Attitudes

The Oxford English Dictionary ("Attitude", 2002) describes attitude as "a settled way of thinking or feeling about something". Within this research, the attitudes of the teachers towards children with ADHD are being investigated.

Foundation Phase teachers

"Foundation Phase teachers are teachers that teach Grade R to Grade 3 children between the ages of 5 and 9 years of age" (Foundation Phase Teacher, 2019).

Mainstream

Mainstream is defined in the Oxford English Dictionary ("Mainstream", 2002) as "the ideas, attitudes, or activities that are shared by most people and regarded as normal or conventional." However, in the educational setting, as an adjective, the Oxford English Dictionary (ibid., 2002) describes it as "(of a school or class) for pupils without special needs".

Misconception

According to the Oxford English Dictionary ("Misconception", 2002), the word misconception is "a view or opinion that is incorrectly based on faulty thinking or understanding." In this study, the word misconceptions is utilised to demonstrate that the teacher's views or opinions about ADHD may be incorrect in some instances. Previous studies have shown that teachers have numerous incorrect misconceptions of ADHD.

Wraparound

"A wraparound is a team-based approach to construct a plan to meet a child's needs. This wraparound process is individualised to a child's specific needs" (Association for Children's Mental Health, 2019).

1.7 EXPOSITION OF THE STUDY

Chapter One serves to clarify the orientation to the study and includes a discussion on the background to the problem. Furthermore, a statement of the research problem, the research question and the aims of the study were included. The context in which the study took place is discussed, and relevant concepts were clarified.

Chapter Two consists of a literature review, which examines the relevant theoretical frameworks which are applicable to this study.

Chapter Three comprises a detailed discussion of the qualitative and explanatory nature of the study and the generic qualitative research design. The methods of data collection, processing and analysis are also included. Additionally, the trustworthiness and ethical considerations of this research are addressed.

Chapter Four contains an in-depth discussion of the analysed data.

Chapter Five is the chapter in which conclusions are drawn and recommendations are made based on the findings of the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This study concerns itself with one focus, Foundation Phase teachers' misconceptions of ADHD. This chapter begins by providing an overview of Attention-Deficit/Hyperactivity Disorder (ADHD), its current prevalence and its likely causes. This chapter will also explore inclusive education in South Africa and how ADHD learners are accommodated. Following this, information regarding teachers' perceptions and misconceptions of ADHD and relation to knowledge is presented.

2.2 GENERAL INFORMATION ON ADHD

Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most common mental health disorders throughout schools and community agencies (Brock, Jimerson, & Hansen, 2009; Koonce, 2007). The process by which this disorder is diagnosed varies from clinician to clinician. Some clinicians utilise the *DSM-5 (*APA, 2013), while others endorse a multi-method assessment protocol involving a clinical interview with the parents, behavioural observation of the children, and behaviour rating scales completed by multiple informants, including the teachers, and parents, and administration of clinic-based measures (Koonce, 2007).

In South Africa inclusive education is a constitutional right. There are three core components to this right, which are "a right to an inclusive education system; a right to accessibility; and the right to individualised support including reasonable accommodation" (Hodgson, 2018, p. 461). The South African Schools Act (SASA) is a governing body that states that it is compulsory for children between the ages of seven and 15, or up until their Grade 9 year, to receive education. SASA has divided schools into ordinary schools and those that are for learners with special needs, more commonly known as special schools. However, SASA does call for, "where it is 'reasonably practicable', children with disabilities to be provided with education and 'relevant educational support services at ordinary schools'" (Hodgson, 2018, p. 471). The concept of disability has received widespread attention in national policies as well

as at international conventions. “In South Africa, the different government departments have developed policies, white papers and strategies on disability” (Sefotho, 2018).

The Education White Paper 6 (EWP6) 2001) proposes instituting schools which are equipped and can provide the means to cater for the different types of learners’ needs. “The key aims of White Paper 6 include mobilisation of out-of-school children with disabilities; the strengthening of special schools; the establishment of full-service schools; the establishment of district-based support teams and school-based support teams; the improvement of awareness and training on inclusive education; and special provision for the funding of the establishment of the inclusive education system” (Hodgson, 2018, p. 472).

The Minister of Basic Education circulated the final version of the Screening, Identification, Assessment and Support Policy (2014) (SIAS), which strengthens the Education White Paper 6, as it sets out:

> detailed, step-by-step, practical processes for admission and referral of children with disabilities to the different types of schools. Crucially, at its core, is the principle ‘that every child should have the right to receive quality basic education and support within his or her local community’” (Hodgson, 2018, p. 473). This enhances the referral process in that a child who was not accommodated in a mainstream school and was placed in a special school, may now be referred to a mainstream school. In this way, education is focused on the “full development of human potential, personality, talents and creativity, thus enabling effective participation in society” (Hodgson, 2018, p. 473).

Since this study is situated in a mainstream school in South Africa, I now briefly review African perspectives of disability. In looking at the African worldview of disabilities, one must be mindful of the belief systems that underpin different cultures. “Conceptualisations of disability across the globe have given rise to models and approaches that reflect the genius and worldview of the West and its concomitant epistemological tendencies” (Leshota & Sefotho, 2018, as cited in Sefotho, 2018 p. 96). Many cultures have their own belief systems and they view disabilities in dissimilar ways. “Even though disability affects people irrespective of race, religion, class or gender, its meanings are determined by and mediated through the norms of the culture within which they exist” (Ogechi & Ruto, 2002 as cited in Sefotho, 2018, p. 96).

Children and people with disabilities are treated differently depending on the culture or belief system of that culture from which they come. Within the Basotho worldview, people with disabilities are excluded from some rituals and rites of passage as “they remain at the level of

children, outsiders and half persons" (Leshota & Sefotho, 2018 as cited in Sefotho, 2018, p. 99). The names given to children and people with different disabilities are often dependent on the way the different societies and cultures view the disability. Therefore, within the African worldview, disability is often seen as a misfortune, undesirable and a bad omen (Leshota & Sefotho, 2018 as cited in Sefotho, 2018).

In some of these African cultures, children and people with disabilities are isolated from the rest of society.

> Some people, if not many, believe that some disabilities are the result of lack of adherence to social morality and religious proclamations that warn against engaging in certain behaviour. Some beliefs are based upon the assumption that some disabilities are the result of punishment from an all-powerful entity. Furthermore, the belief is that the punishment is for an act or acts of transgression against prevailing moral and/or religious edicts" (Henderson & Bryan, 2011 as cited in Retief & Letsosa, 2018).

This belief system can be detrimental to children and people with disabilities as well as their families, as they may be ostracised from the community within which they live. It is because disabilities are seen and treated differently in different cultures that educational policies evolved in order to protect all people with disabilities so as to give them the best possible care and support.

The African Union Protocol's purpose (2018) is to "promote, protect and ensure the full and equal enjoyment of all human and people's rights by all persons with disabilities, and to ensure respect for their inherent dignity". In Article 16 the African Union Protocol discusses the right to education, where it states that:

> 1. Every person with a disability has the right to education.
>
> 2. Parties shall ensure to persons with disabilities the right to education on an equal basis with others.
>
> 3. States Parties shall take, reasonable, appropriate and effective measures to ensure that inclusive quality education and skills training for persons with disabilities is realised fully, including by:
>
> a) Ensuring that persons with disabilities can access free, quality and compulsory basic and secondary education;
>
> b) Ensuring that persons with disabilities are able to access general tertiary education, vocational training, adult education and lifelong learning without discrimination and on

an equal basis with others, including by ensuring the literacy of persons with disabilities above compulsory school age;

c) Ensuring reasonable accommodation of the individual's requirements is provided, and that persons with disabilities receive the support required to facilitate their effective education;

d) Providing reasonable, progressive and effective individualised support measures in environments that maximise academic and social development, consistent with the goal of full inclusion;

e) Ensuring appropriate schooling choices are available to persons with disabilities who may prefer to learn in particular environments;

f) Ensuring that persons with disabilities learn life and social development skills to facilitate their full and equal participation in education and as members of the community;

g) Ensuring that multi-disciplinary assessments are undertaken to determine appropriate reasonable accommodation and support measures for learners with disabilities, early intervention, regular assessments and certification for learners are undertaken regardless of their disabilities;

h) Ensuring educational institutions are equipped with the teaching aids, materials and equipment to support the education of students with disabilities and their specific needs; and

i) Training education professionals, including persons with disabilities, on how to educate and interact with children with specific learning needs; and

j) Facilitating respect, recognition, promotion, preservation and development of sign languages.

4. The education of persons with disabilities shall be directed to:

a) The full development of human potential, sense of dignity and self-worth;

b) The development by persons with disabilities of their personality, talents, skills, professionalism and creativity, as well as their mental and physical abilities, to their fullest potential;

c) Educating persons with disabilities in a manner that promotes their participation and inclusion in society; and

d) The preservation and strengthening of positive African values.

The African Union Protocol protects the rights of all people with disabilities. It views these people as being part of society and therefore aims at giving them all the possible and necessary

tools in order to be able to function in and fit into society. This needs to be done by making sure that early intervention takes place so that the individual is not left to try and 'catch-up' at a later stage because there was no support early on. Although these people may have a disability, they also have their own unique strengths and these need to be explored and enhanced so that they can reach their full potential. This protocol aims to ensure that every child receives an education as is their right; even though the education may be specialised, it needs to be fair and true to their disability. For this to be achieved, professionals such as educators need to be trained in a way that will enhance their teaching and be beneficial to those with disabilities. I now briefly focus in on the situation in South Africa.

The *Education White Paper 6* (South Africa. DoE, 2001) states that inclusive education in South Africa has become visible, whereby teachers have more demands placed on them to educate learners with different needs within mainstream classrooms. "Inclusion can be described as a reconceptualisation of values and beliefs that welcomes and celebrates diversity and not only a set of practices" (Landsberg, Krüger, & Nel, 2005, p. 8). Teachers are now expected to change their curriculum and redesign their classroom setup, in order to accommodate all learners with whatever specific needs they may have.

> Inclusive education shifts the focus from the learners having to adjust to 'fit into' the systems, to the schools transforming themselves to be capable of accommodating and addressing the diverse needs of all learners so that each individual learner receives a learning experience that 'fits'" (Landsberg et al., 2005, p. 8).

Within this inclusive education system in the country, I now focus on the neurodevelopmental condition referred to as ADHD.

The history of ADHD literature records the continuous adjustments in this field, in addition to the complexity of the disorder. Furthermore, it discerns the debates and myths about this disorder. It is paramount "that the teacher who is most often the first to make a referral, be aware of how a diagnosis is made and what relevant information the psychologist or medical practitioner needs in order to make a diagnosis" (Kleynhans, 2005, p. 10).

2.2.1 Development of the concept of ADHD

"In order to understand current views on ADHD, the history of ADHD over the last hundred years is briefly reviewed" (Mash & Wolfe, 2002, p. 100). ADHD was discussed even before

that by Hippocrates (460-370 BC) who described individuals who had accelerated responses to sensory experiences and swift movement to the next reaction. Numerous biomedical and psychosocial descriptions, as well as several labels, were used in the time of Hippocrates to describe the behaviours that are characteristic of ADHD. Over the years, researchers have focused more on the probable causes of this disorder. Historically, the disorder has been referred to as "minimal brain damage", "minimal brain dysfunction", "hyperkinetic reaction of childhood" and "attention deficit disorder with or without hyperactivity" (APA, 1968). This indicates that the researchers assumed this disorder had a physical origin. "Henceforth, advanced research made it clear that impulsiveness and hyperactivity that were seen in children with ADD with hyperactivity were highly related to each other, and that they form a single problem of poor inhibitory control" (Barkley, 2000 p. 33). The current name, Attention-Deficit/Hyperactivity Disorder, came about because of its limited inhibitory control, which differentiates it from other childhood disorders (Barkley, 2000). Due to ADHD being supported by an overwhelming amount of scientific evidence, it is seen by major medical organisations as a genuine disorder.

According to Sattler and Hoge (2006), a diagnosis of ADHD is made when a child displays the required number of symptoms of the disorder (six of nine symptoms of inattention, six of nine symptoms of hyperactivity-impulsivity, or six of nine symptoms of both) and these symptoms are:

- present before age seven years, for at least six months and "to a degree that is maladaptive and inconsistent with an individual's developmental level" (APA, 2013);
- occur in two or more settings; and
- significantly affect the child's social or academic functioning.

ADHD is a worldwide disease and has been shown to have adverse impacts upon a child and their family's functioning no matter where they live (Decaires-Wagner & Picton, 2009).

2.2.2 Defining ADHD

According to the *DSM-5* (APA, 2013), the symptomatic nature of ADHD is delimited by persistent and prominent levels of inattention, hyperactivity-impulsivity or both, that indicate impairment in the affected child's life and level of functioning.

These behaviours cause considerable impairment in school settings. “Many clinical scientists from various countries now also hold the view that there are two additional problems at the heart of ADHD, namely difficulties following rules and instructions and excessive variability or inconsistency in responses to situations” (Accardo, Blondis, Whitman, & Stein, 2000, p. 11). There are three different types of ADHD, depending on which symptoms are most prevalent in the individual (APA, 2013). Individuals with a Predominantly Inattentive Presentation of ADHD may have difficulty paying attention to details, organising and finishing tasks, or following instructions. Those with a Predominantly Hyperactive-Impulsive Presentation may fidget and talk excessively, feel restless, interrupt others, grab things from others, and have difficulty waiting their turn and remaining seated. In a Combined Presentation of ADHD, symptoms of the previously mentioned two types are equally present in the individual (Vitanza, 2014).

Neurotransmitters carry the messages along pathways and circuits in the brain. If there is a deficiency in these chemicals, the message does not get to its intended destination. Therefore, when this happens, depending on which message is interrupted, the child is then seen to be hyperactive, impulsive or inattentive.

Researchers have discovered a distinct disorder of attention that is different from that seen in ADHD, which is called sluggish cognitive tempo (SCT). “Children with SCT are often described as being more daydreamy or ‘spacey’ than others, acting as if they are often in a mental ‘fog’, staring more than others, seeming to be sleepy, and not very attentive to what is happening around them” (Barkley, 2013, p. 150). Parents of children with SCT have reported that their children are not hyperactive, but rather appear lethargic and sluggish, compared to other children. They are the children who wander through their daily activities, not completely paying attention to what is going on around them and they therefore often lose out on important information, only getting parts of it. Barkley (2013, p. 151) explains it below:

> Children with this type of inattention seem to have a problem with sifting through the information given in instructions and quickly identifying the important parts; their mental filter seems less able to sort out the relevant from the irrelevant.

Children with SCT are not like those with ADHD, as they can be quiet while working; however, they are often not fully processing the task at hand. Research has found that children with SCT differ from those with ADHD in having significantly fewer problems with disobedience,

aggression, impulsivity, and overactivity at home and school. These children also have a lot less trouble in their relationships with other children as they can sometimes be withdrawn, quiet, shy or socially anxious (Barkley, 2013).

Children with ADHD often have good hand-eye coordination and can recall information they have learned; however, children with SCT did not display these qualities. Rather, they have trouble with perceptual-motor speed and hand-eye coordination, as well as trouble with memory retrieval. Many studies, including Barkley's study in 2012, found that children with SCT were more likely to be diagnosed with depression, as well as having more anxiety symptoms (Barkley, 2013). With regards to ADHD, boys are three times more likely to have ADHD; however, Barkley's study found that when it came to SCT, the prevalence rate of boys and girls did not differ. Barkley also found that "SCT symptoms developed later in childhood than ADHD symptoms and did not decline with age" (Barkley, 2013, p. 151).

In a study that looked at children both with ADHD and SCT, Barkley (2013) noted that both groups did equally poorly at school, but the children with SCT seemed to have more trouble with the accuracy of their work, while those with ADHD had more problems with the quantity of work they did – thus their productivity was not good. "SCT and ADHD could coexist in 35-49% of cases of the other disorder. When this occurred, the children were far more impaired and carried a far greater risk for other psychiatric and learning disorders than did children with either disorder alone" (Barkley, 2013, p. 151). As SCT is a relatively newly discovered disorder, which is not listed in the *DSM-5* and is therefore not officially recognised as a diagnosis yet, there is little known about treating it, as opposed to treating ADHD. Of the research that has been done, Ritalin was studied as the stimulant medication which showed that most of the children with SCT did not respond as well to it as children with ADHD. "ADHD is real: a real disorder, a real problem, and often a real obstacle. It can be heart-breaking and nerve-wracking when not treated properly" (Barkley, 2013, p. 19).

2.2.3 Aetiology and prevalence

ADHD does not have an immediate and direct cause. Substantial research has been done on many fundamental influences for this disorder. The causes of ADHD are unknown; however, the body of literature implicates both genetic and environmental factors, situational events, circumstances, and diet (Han et al., 2015).

ADHD affects millions of children around the world. Researchers agree that ADHD is diagnosed in approximately 3%-10% of children internationally (Meyer, 2005). Studies that have explored the incidence rate of this disorder in South Africa revealed that "approximately 4 to 5 per cent of primary school children show significant ADHD symptomatology" (Meyer, 2005). Due to South Africa adopting an inclusive education model, as well as having an increase in numbers per class, there is a possibility that there are even more learners with ADHD in every classroom. Apparently, ADHD is diagnosed more regularly than the prevalence rate specifies. ADHD seems to be one of the most frequent reasons for referral to school psychologists and child psychiatric facilities (Polanczyk & Rohde, 2007). There has been an escalation in the use of stimulant medication; furthermore, there has also been a rise in misdiagnoses – the reason being that the behaviour displayed by the child was not a result of ADHD, but was rather caused by or associated with another condition (Hartnett, Nelson, & Rinn, 2004). ADHD has been identified as a cross-cultural mental health disorder with significant psychiatric comorbidity in which more than 50% of affected children exhibit one or more characteristics of a psychiatric disorder (APA, 2013; Bauermeister, Canino, Polanczyk, & Rohde, 2010), with comorbid conditions including behavioural, social, or learning disorders (Humphrey, Aguirre, & Lee, 2012; Wheeler, Pumfrey, & Wakefield, 2009).

From a very young age, there is evidence of ADHD being present. It can often last through childhood and adolescence and it may still be present in adulthood. Thus, ADHD can be a lifelong disorder. "When looking at the long-term risk for a large percentage of children with ADHD, it is clear that teachers will have to play an important part in creating environments at school conducive to the academic, social and emotional success of ADHD learners" (DuPaul & Stoner, 2003, p. 20).

2.2.4 Diagnosis and treatment

According to Vogel (2014, p. 72), there are "no diagnostic tests that are pathognomonic for ADHD. A good clinical history and examination are essential. The developmental history should include early childhood development, psychosocial history and an assessment of co-morbid conditions". Information, especially from the school, is needed to identify whether ADHD symptoms are present in more than one setting. As ADHD tends to run in families, "it is useful to explore the mental health of both parents, including asking about ADHD" (Vogel, 2014, p. 72). According to the International Consensus Statement on ADHD (Barkley, 2002),

there is a specific gene that is a contributing factor for ADHD. This specific gene contributes to ADHD characteristics and can be found to be "among the highest for any psychiatric disorder (70-95%)" (Barkley, 2002, p. 90). Their findings confirm that ADHD is a hereditary disorder, whereby if a child has been diagnosed with ADHD, there is a strong possibility that the specific gene has been passed on by either one of the parents and in some cases, both (Barkley, 2002). It is therefore important that a teacher understands the background of the family so as to be able to deal with both the family and the child in a more realistic way by setting accurate guidelines. These guidelines are often given to the parents to be able to help the child at home.

According to Singh (2008, as cited in Moon, 2011, p. 3), "reliable diagnosis rates for ADHD are difficult to find in most countries, because medical or scientific criteria are not used to diagnose ADHD". It is the teachers or parents who observe symptoms that they think are those of ADHD in a child and then refer the child to a doctor. The doctors have to then first check whether these symptoms have been consistent for "at least six months and whether symptoms and impairment have been present in at least two settings, such as at school and at home" (Moon, 2011, p. 3). Often doctors recommend medicating the child if they feel their symptoms meet those criteria. Generally, "treatment with stimulant medication is known to improve the core symptoms of ADHD and has resulted in positive responses in more than 75% of treated children" (APA, 2000). That of course means that as many as 20% of children who exhibit ADHD symptoms, seem not to benefit in a meaningful way from medication. Breggin (2000) argues that millions of children with ADHD and their families are being treated unfairly when potentially highly addictive drugs with cardiovascular, nervous, digestive, endocrine and psychiatric side effects are prescribed to them, even though no evidence of long-term benefits exist.

If a child's symptoms meet the criteria of the *DSM-5* it does not necessarily confirm a diagnosis of ADHD. Other substantial information, such as a child's medical history, developmental history, the medical history of the family, as well as the child's school and social history, need to be taken into account. Another part of this process requires the child to have a full psycho-educational assessment completed, which measures the child's intellectual functioning, auditory, visual and visual-motor processing skills, as well as the child's scholastic strengths and weaknesses. It is important to remember that there is no specific test that can support or rule out ADHD.

Treatment of ADHD involves raising the level of the deficient neurotransmitter with medication, helping the child to concentrate better and therefore enabling effective learning. ADHD cannot be cured, thus the most effective way of dealing with ADHD is by using a multi-modal approach, involving a variety of strategies. Treatment strategies aim at supporting the individual diagnosed with ADHD, helping to manage and comprehend the symptoms (Resnick, 2000, p. 97). If ADHD is left untreated, it can impair the child's ability to focus effectively on a task or in the learning environment which can therefore create large gaps in their learning.

2.2.5 Associated problems

"Most children with ADHD are of normal or higher overall intelligence, yet they experience difficulty in applying their intelligence to everyday situations" (Mash & Wolfe, 2002, p. 106). Nearly all the children that are recommended for an ADHD assessment are underachieving at school as a result of their ADHD related symptoms. Children with ADHD spend a significant amount of time in an educational setting where they often struggle with the scholastic demands. "Among the children with ADHD, 30% to 60% have speech and language problems that manifest in talking more and louder than normal children, shifting often in conversations, interrupting other people's conversation and starting a conversation inappropriately" (Mash & Wolfe, 2002, p. 107).

2.2.6 Comorbid disorders

Studies have found that people diagnosed with an attention-deficit disorder and children with severe ADHD symptoms "consistently document high rates of comorbid psychiatric conditions, including conduct disorders, depression and other mood disorders, anxiety disorders, and tic disorders" (comorbidity) (Spencer, Biederman, & Wilens, 1999). The most common comorbid disorders associated with ADHD are: Oppositional and Defiant Disorder, Conduct Disorder and Anxiety and Depression (American Academy of Pediatrics, 2000). People who have been diagnosed with Oppositional Defiant Disorder do not like to conform to other people's demands, thus they do not do tasks that are given to them at work or school. They tend to be negative, hostile and defiant. This is seen as comorbid with ADHD, as people with ADHD may resist doing work due to it being difficult to sustain their concentration and they tend to forget instructions. As a result, some "individuals with ADHD may develop

secondary oppositional attitudes towards such tasks and devalue their importance" (APA, 2013).

Children or adolescents under the age of 18 can be diagnosed with conduct disorder. Children diagnosed with this disorder frequently "violate the rights of other people, and they refuse to conform their behaviour according to the law, as well as to what is considered normal for their age in society" (APA, 2013). Conduct disorder is comorbid with ADHD as it is seen as a disruptive behaviour, which is how ADHD is also characterised. Children with ADHD are at higher risk of developing conduct problems and conduct disorder compared with children who do not have ADHD.

One of the symptoms of ADHD is inattention, which is also a common symptom of anxiety disorders. People diagnosed with ADHD are inattentive due to their attraction to external stimuli, new activities, or preoccupation with enjoyable activities. This is distinguished from the inattention due to worry and rumination seen in anxiety disorders (APA, 2013). Anxiety disorders are a medical condition which includes severe anxiety and worry around everyday activities or proceedings. Anxiety and depression have symptoms, causes and treatments which may overlap. Those who suffer from depression "experience persistent feelings of sadness and hopelessness and lose interest in activities they once enjoyed" (APA, 2013). Since "children and adults with ADHD struggle with focusing, organising tasks, and feeling restless, they might experience sadness, guilt, irritability, low self-confidence and helplessness. In some cases, these symptoms can signal depression" (Smith, 2018). "Individuals with depressive disorders may present with the inability to concentrate, however poor concentration in mood disorders becomes prominent only during a depressive episode" (APA, 2013).

There is evidence that individuals with an attention-deficit disorder have a markedly increased probability of having one or more additional psychiatric disorders (Biederman, Newcorn, & Sprich, 1991; Jensen, Martin, & Cantwell, 1997). "These comorbid problems contribute further to the significant amount of stress teachers experience when working with ADHD children" (DuPaul & Stoner, 2003, p. 6).

2.3 RESEARCH ON TEACHERS' KNOWLEDGE AND PERCEPTIONS OF ADHD

Internationally and locally, research has shown that teachers' knowledge base with regards to ADHD is inadequate (Aguiar, Kieling, Costa, Chardosim, Dorneles, Almeida, & Rohde 2014). There is little evidence due to only a few studies being done on Foundation Phase teachers' overall knowledge of ADHD. There is one reported study which was done in South Africa, which looked at Foundation Phase teachers' perceptions of ADHD at public and private schools. Because of the lack of knowledge and adverse perceptions, "children could be 'identified' as having ADHD, when in fact there may be other factors impacting on their attention or activity levels. It also brings into question teachers' ability to accurately identify learners who may have ADHD, as opposed to those who are merely hyperactive or inattentive because of other factors" (Kern, Amod, Seabi, & Vorster, 2015, p. 3043).

It has often been noted that "pre-service teacher training programmes do not provide teachers with the tools to successfully implement inclusive education and to identify and address the needs of learners presenting with ADHD" (Mulholland, Cumming, & Jung, 2014 as cited in Kern et al., 2015, p. 3043).

The results of a South African study indicated that teachers' understanding of ADHD "focused on the type of behaviour that the child exhibited. Specifically, the behaviours highlighted by the teachers were: an inability to sit still, remain focused, complete work and sustain concentration" (Kern et al., 2015, p. 3043). The findings of this study also seemed to support the idea that "some teachers do not make a distinction between inattention and ADHD" (Kern et al., 2015, p. 3057). Teachers often identify inattentiveness which may be caused by other factors, as ADHD – this without applying "any of the other diagnostic criteria" (Kern et al., 2015, p. 3057). The study also indicated that "teachers need to be adequately trained to correctly screen learners with ADHD and implement the necessary intervention strategies to assist their learners. The identification process needs to address the possible causes of inattention and hyperactivity in children, over and above ADHD. These may include systemic factors such as emotional distress resulting from abuse or neglect, health difficulties, language difficulties and poverty" (Kern et al., 2015, p. 3057).

2.4 BRONFENBRENNER'S BIO-ECOLOGICAL SYSTEMS THEORY

Bronfenbrenner's systems theory describes the ecology of human development. His theory argues that "development is best understood by recognising that individuals do not develop in isolation but are always part of larger systems – the family, the community (peers, school, etc.) and the society (culture)" (Glassman & Hadad, 2009). This theoretical approach helps us to understand how the different systems interact with one another in child development.

Bronfenbrenner's model includes four systems, which interrelate with a person and interact with the chronosystem: the microsystem, mesosystem, exosystem and macrosystem. Below is a diagram of Bronfenbrenner's ecosystemic model (Figure 2.1).

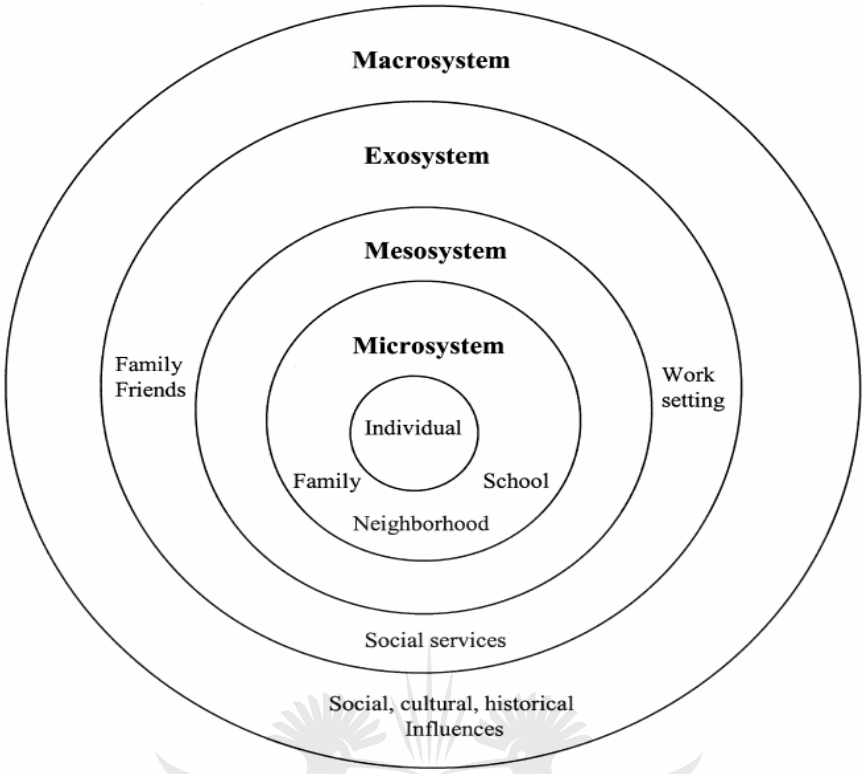

Figure 2.1: Bronfenbrenner's ecosystemic model (adapted from Bronfenbrenner, 1979)

Landsberg, Krüger and Nel (2016) propose that the key elements of Bronfenbrenner's model are four interrelating assets that need to be considered when understanding child development in context. When looking at a child's behavioural tendencies, this is called person factors. Another one of the four factors is process factors, which relates to patterns of interaction. Context factors which include family, school, the classroom and local community also play an important role in the ADHD child's life as they all interact and influence one another. The last factor is time, which refers to the maturation of the person and fluctuations in the environment. Bronfenbrenner thought that a child's development is much the same as the nested structures which are interrelated. The five systems are 'woven' into one another and help with understanding how all these systems influence the development of a child.

The microsystem constitutes a pattern of activities, roles and interpersonal relations experienced between individuals and the systems in which they are actively involved, namely

their family, school group and peers (Landsberg et al., 2016). These interpersonal relations involve each person reciprocally influencing the other by continual face-to-face contact. In this microsystem, relationships can influence the child in two directions (bi-directional influences) − both away from and toward the child. Thus, a child's parents may have an emotional impact on his/her views and conduct; in turn, the child's behaviour also affects the behaviour and beliefs of the parent. In the microsystem, bi-directional influences are strongest and have the greatest influence on the child. Nonetheless, inner structures can still be impacted by any interactions from the outer levels.

The mesosystem refers to the interaction between the child's microsystems. "These microsystems continuously interact with one another" (Donald, Lazarus, & Lolwana, 2010, p. 41). At this level the child's family, their school environment and peer group all work together, thus altering each of the systems (Landsberg et al., 2016). For example, "a child who comes from an unsupportive family environment may not have the emotional support he/she needs, thus placing him/her at risk of developing barriers to learning" (Landsberg et al., 2016, p. 33). Even so, the child may have a compassionate and observant teacher who is able to foster an encouraging and nurturing environment for the child, therefore changing the possible negative influence and rather boosting the child's self-esteem and sense of security. This could then have a positive impact on the child's learning and development. If the child were to have a positive experience within the school environment, this could then possibly have an impact on the relationships within the child's home environment (Landsberg et al., 2016).

The exosystem is one in which the child is not directly involved. The different structures of the exosystem interact with other structures from the developing child's microsystem. While the child is not actively involved in the exosystem, he or she is impacted by both the positive and negative factors within this system (Donald et al., 2010). An example of the exosystem can be seen in the education system and how it impacts on an individual learner. The Education Department and its policies influence the school's curriculum and other school practices. While the child has no direct control or influence over this, he or she is impacted on by the decisions taken upon by the Education Department. The macrosystem is the society and culture of the child's environment. This layer refers to both the social and cultural values, beliefs and traditions of people as well "social justice and the spirit of Ubuntu" (Landsberg et al., 2016, p.

12). The effect of the rules and principles described by the macrosystem tend to have a ripple down effect in the connections within the other systems.

The chronosystem has external factors and internal factors. An example of an external factor would be the positive approaches for students from a disadvantaged background to be able to receive a university education. These attitudes have changed progressively, and this has impacted on student learning opportunities. Other elements can be internal, such as the cognitive changes a child undergoes as they mature (Landsberg et al., 2016).

When looking at a child within a classroom setting it is important to explore all aspects of that child before making a decision or a 'diagnosis.' Thus the ecosystemic model is relevant as it highlights the interactions between an individual's progress and the systems within the social context. "This, in turn, reminds one why the general challenges of development cannot be separated from the more specific challenges of addressing social issues and barriers to learning" (Landsberg et al., 2016).

This bio-ecological theoretical framework focuses on supporting a child at the individual, home, school and community level. It aims to reinforce partnerships and encourage relationships among the various systems or levels. While this is helpful when planning interventions on multiple levels, children are ultimately the active participants in their own development, and their perceptions of their environments influence the way they engage in them (Donald et al., 2010). Thus, the environment does not simply influence or impact on the child. One of the important features of this study is the influence of the interacting environments of home and school, which has an impact on children with ADHD. In this way, Bronfenbrenner's ecological systems theory (1979) is important to this study.

2.5 CHAPTER SUMMARY

This chapter discussed the history of ADHD, showing its development over time. The history shows that the definition, aetiology and prevalence, as well as diagnosis and treatment, have changed. The notion of disabilities within an African worldview was also explored as it impacts how children with ADHD, which is a disability, are treated and educated. There are many educational policies which have been drawn up and implemented in order to protect children

with disabilities such as those with ADHD, in order to ensure that they are included within the mainstream schooling system and not ostracised because of their disability. Therefore, it is imperative to be well-informed about current knowledge which is expanded through research. Subsequently, teachers must have a clear understanding of the disorder, as the behaviours related to ADHD often create difficulties at school. Furthermore, this disorder can be lifelong.

Although SCT has not been officially recognised as a diagnosis, it is important that teachers and parents alike are made aware of this newly discovered disorder as a possible alternative to ADHD. A child is part of a larger system; thus their individual systems need to be explored. Bronfenbrenner's theory explains how each system interacts with the other and influences children's behaviour in all areas of their lives. Teachers are not adequately trained in the field of ADHD and they tend to see some ADHD symptoms in the classroom setting, but often do not explore what else is going on in the child's life, be it at school, at home or within their community. Children can sometimes show some of the signs of ADHD, but it may be related to not having slept well or having had an argument with one of their family members before coming to school. There are many factors which need to be taken into consideration before 'diagnosing' a child with ADHD. In the next chapter, I discuss the research design used in this study by discussing the research paradigm and the methodology selected.

CHAPTER THREE: RESEARCH DESIGN

3.1 INTRODUCTION

Chapter three includes a description of the research paradigm, approach and design. The data collection methods used are also discussed. These were an online survey and interviews which elicited teachers' perceptions of and training for ADHD. The chapter concludes with a description of how this data was analysed, as well as the ethical considerations and trustworthiness of the study.

3.2 RESEARCH PARADIGM

A research paradigm is a series of theoretical techniques and traditions assumed by participants of a specific research community in order to generate knowledge (Maree, 2016).

The interpretive paradigm does not assume that the rules and meanings are clear for all participants in the same way or that researchers' understanding of an issue can be assumed to be that of participants without further argument. Rather it is assumed that meanings are produced and exchanged in interpretative processes and that research has to begin with analysing the concepts produced and used in these processes (Flick, 2015). Interpretive research is defined in terms of epistemology (Rowlands, 2005). Klein and Myers (1999) state that the "main assumption for interpretive research is that knowledge is gained, or at least filtered, through social constructions such as language, consciousness, and shared meanings" (as cited in Rowlands, 2005). In addition to the emphasis that is placed on the "socially constructed nature of reality", interpretive research recognises "the intimate relationship between the researcher and what is being explored, and the situational constraints shaping this process" (Rowlands, 2005, p. 81). In the methodology, there are no established dependent or independent variables when it comes to interpretive research and no hypotheses to test, but it is "aimed at producing an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context" (Walsham 1993, p. 4-5). The interpretive paradigm makes use of open-ended research questions, focusing

on qualitative data. Thus, the researcher will interpret meanings. Interpretive studies are often idiographic, using small numbers of participants because the purpose is not to generalise, but to explore the meanings which participants place on the social situations under investigation (Phothongsunan, 2010).

A qualitative research approach involves the use of qualitative data, such as interviews, documents, and participant observation data, to understand and explain social phenomena (Myers, 1997). "Qualitative researchers select participants purposively and integrate small numbers of cases according to their relevance" (Flick, 2015, p. 11). Qualitative research addresses issues by using three different approaches, namely: grasping the subjective meaning of issues from the perspectives of participants, focusing on the latent meanings of a situation, social practices and the life world of participants (Flick, 2015). Qualitative research has a number of conceptual frameworks from which to choose. According to Schwandt (2015), qualitative research is a "diverse term covering an array of techniques seeking to describe, decode, translate, and somehow come to terms with the meaning, rather than the measurement or frequency, of phenomena in the social world. In other words, qualitative research tends to work with text rather than numbers" (as cited in Rowlands, 2005, p. 81). Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions (Myers, 1997). Qualitative method is a research method aiming at a detailed description of processes and views that are therefore used with small numbers of cases in the data collection (Flick, 2015).

3.3 RESEARCH DESIGN TYPE

A research design is a plan or strategy which moves from the underlying philosophical assumptions to specifying the selection of respondents, the data gathering techniques to be used and the data analysis to be done (Maree, 2007). The research design, the "blueprint" of how the study will be conducted, focuses on what kind of study is being planned and what kind of evidence is required to address the research question adequately (Mouton, 2015, p. 56). As this study does not fit into any established qualitative design, it can be classified as a generic qualitative research design as described by Merriam (1998, p. 11). Merriam states that the

characteristics of a generic qualitative design are typical of qualitative research but rather than focusing on culture or lived experiences as they are experienced, researchers using this design "simply seek to discover and understand a phenomenon, a process, or the perspectives and worldviews of the people involved" (Merriam, 1998, p. 11). Caelli, Ray and Mill's (2003) approach to generic qualitative research is such:

> Generic qualitative studies are those that exhibit some or all of the characteristics of qualitative endeavour but rather than focusing the study through the lens of a known methodology they seek to do one of two things: either they combine several methodologies or approaches, or claim no particular methodological viewpoint at all. Generally, the focus of the study is on understanding an experience or an event.

As this study is defined as having a generic qualitative study design it cannot be classified into any of the other more established designs of phenomenology, ethnography, case study or grounded theory. While this study focuses on the perceptions of Foundations Phase teachers of learners with ADHD, it does not delve into the lived experience of phenomena and how the participants experience it, as is the focus of a phenomenological design. While this study contains aspects of a case study design, data was only collected from one source, namely the participants.

3.4 DATA COLLECTION AND ANALYSIS

In qualitative research, the range of data collection methods stretches from interviewing and observation to the use of artefacts, documents and records from the past, from visual and sensory data analysis to ethnographic methods (Davies, 2007, p. 151). Qualitative research is "based on a naturalistic approach that seeks to understand phenomena in context and, in general, the researcher does not attempt to manipulate the phenomenon of interest. The research is carried out in real-life situations and not in an experimental situation" (Maree, 2007, pp. 78-79).

3.4.1 Selecting participants

In qualitative research, only a sample (that is, a subset) of a population is selected for any given study. The research objectives of the study and the "characteristics of the study population, such as size and diversity, determine which and how many people to select" (Mack, Woodsong,

Macqueen, Guest, & Namey, 2005, p. 5). One of the most common sampling strategies is purposive sampling – participants are grouped "according to preselected criteria relevant to a particular research question" (Mack, Woodsong, Macqueen, Guest, & Namey, 2005, p. 5). Thus, this method of sampling is used in special situations where the sampling is done with a specific purpose in mind (Maree et al., 2007, p. 179). Purposive sampling decisions are not only restricted to the selection of participants, but also involve the settings, incidents, events and activities to be included (Maree et al., 2007, p. 79). For this study the participants needed to be Foundation Phase teachers, teaching in a mainstream independent school. The population is defined as a complex set of individuals that a researcher wishes to study (Hinton, 2004).

The sample used in this study consisted of 12 female Foundation Phase school teachers in an independent mainstream school. The teachers were invited to participate in this study with the permission of the school principal and the Head of School. Once the participants agreed to participate, they met with me, the reseacher. The sample of the study was drawn from a list of educators from Grade R (reception year) to Grade 3. The participants of the study all teach in a high achieving school, where classes are small (no more than 24 students in a class), compared to the government schools where classes are generally larger. Below is a table giving a short biographical background of each participant.

Table 3.1. Biographical background of participants

Age	Years of teaching experience	Qualifications
32	10	Bachelor of Education
58	27	Higher Diploma in Education
57	36	Bachelor of Education Honours
49	27	Higher Diploma in Education
29	6	Bachelor of Education
34	12	Bachelor of Education
48	26	Higher Diploma in Education
27	8	Bachelor of Education
45	18	Bachelor of Arts
50	25	Bachelor of Education Honours

52	29	Bachelor of Education
54	32	Bachelor of Education

3.4.2 Data collection methods

A questionnaire is simply a 'tool' for collecting and recording information about a particular issue of interest. It is mainly made up of a list of questions. Questionnaires should always have a definite purpose that is related to the objectives of the research, and it needs to be clear from the outset how the findings will be used (Questionnaires: A how to guide, n.d.).

The first method of data collection for this study was a self-developed online questionnaire. This was used to refine my interview questions for the semi-structured interviews which were conducted at a later stage. The responses from the online questionnaire served as a guideline for drawing up the interview questions. The online questionnaire was used to collect factual information in order to classify the sample and their circumstances. It aided in gathering straightforward information relating to the sample's behaviour and looked at the basic attitudes/opinions of this sample, relating to a particular issue (in this case, ADHD). The main aim of the questionnaire was to collect background information and this information provided by the participants was analysed for the semi-structured interviews. Below is a list of the questions which the participants answered and completed online.

ONLINE QUESTIONNAIRE

1. Age:
2. Highest degree obtained:
3. Number of years teaching:
4. Which grades have you taught?
5. Are you currently teaching one grade or other grades?
6. Have you taught a student with ADHD?
7. Are you currently teaching a student with ADHD?
8. Would you agree/disagree that ADHD students talk excessively and interrupt others?
9. Can you identify a student with ADHD who has not taken their medication?
10. Do you believe ADHD is underdiagnosed or over diagnosed?

Interviews may be structured, semi-structured or unstructured, and as a data collection method, they are widely used in qualitative research (Robson, 2011). "Qualitative interviews give a new insight into a social phenomenon as they allow the respondents to reflect and reason on a variety of subjects in a different way" (Folkestad, 2008 as cited in Jugder, 2016). When conducting semi-structured interviews for example, the researcher will already have determined areas that are of interest and might have thought of particular questions to nudge the participant so that the information obtained is sufficiently relevant (Petty, Thompson, & Stew, 2012). Interviews do not only have to be carried out face to face but can also be conducted by telephone or via the internet. "Interviews often take between 30 and 90 min to complete and are audio-taped for later transcription" (Petty et al., 2012, p. 19). After having considered the various forms of interviewing, I decided that individual, face-to-face, semi-structured interviews were the best option for the research. This allowed me the flexibility of structured questions, some of them open-ended prompts, and follow-up questions. As with most types of data collection, there are disadvantages. Using interview-generated data can be unfavourable in that it does not pay attention to the "many contextual features of the interview material such as the interactional features, its status as a conversation between both participants and instead takes such data at 'face value'" (Willig, 2012, p. 106). I also needed to be mindful of language irregularity as a specific expression may not be familiar to every interviewee. "In semi-structured interviewing, the emphasis is on meaning rather than lexical comparability" (Willig, 2012, p. 107), indicating that the researcher needs to discern what the interviewee intended by what they said. Thus, this type of data collection requires a kind and ethical rapport to be established between the interviewer and the interviewee.

A participant information letter was drawn up for the teachers, so that they were fully aware of the nature of my research and what was required of them. The information letters invited the participation of the teachers, which included their consent to be interviewed. Consent forms were signed by the willing participants.

I began the data collection with the online questionnaire, and the results from that helped me structure my interview questions for the individual teacher interviews. The reason for this is that I hoped to gain important information in the interviews which would help refine the research. Interviewing is one of the most powerful ways of gathering data, as it not only provides the researcher with information, it also helps the person being interviewed (in this

study, the teachers) reflect on what they have answered (see Appendix C). Below is the list of questions used to guide the semi-structured interview process.

Table 3.2. Interview questions

1. What are the procedures that you use in your classroom when diagnosing a child with ADHD?
2. What do you understand the diagnostic criteria of ADHD to be?
3. What is the effect or impact of children with ADHD in your classroom?
4. Does medication work or not? Please explain.
5. How do you identify a child who has not taken their medication?
6. What is your personal experience of ADHD?
7. How does ADHD manifest in your classroom?
8. Have you ever recommended to a parent that their child should consult with a doctor or professional for ADHD? If so, how did you approach this?
9. Do you think children grow out of their ADHD? Why or why not?
10. What strategies do you use to help children manage their symptoms?
11. Should children be labelled as having ADHD? How does the stigma of the label influence their behaviour or their responsibility towards learning?
12. Is it the attention deficit or the hyperactivity that is most disturbing in your class? Please elaborate.
13. How do you manage the daydreamers? How do you help them remain focused?
14. Have you heard of Sluggish Cognitive Tempo as an alternative diagnosis to ADHD? If so, please explain your understanding of it.
15. What is the parent's role? How do you advise parents regarding their child's ADHD?

3.4.3 Data analysis procedure

Data was analysed using Thematic Content Analysis. "Thematic analysis is the most widely used qualitative approach to analysing interviews" (Jugder, 2016, p. 2). This involved looking for patterns in the data within and across the questionnaires and interviews. Thematic analysis is a method of identifying, analysing, and reporting patterns (themes) within data (Braun & Clarke, 2006). Thematic analysis minimally organises and describes a data set in (rich) detail, interpreting various aspects of the research topic (Boyatzis, 1998). It is a systematic approach to qualitative data analysis that identifies and summarises message content (Maree et al., 2007,

p. 101). Content analysis is used when working with narratives such as diaries or journals or in analysing qualitative responses to open-ended questions on surveys, interviews or focus groups (Maree et al., 2007, p. 101). Content refers to words, meanings, pictures, symbols, themes or any message that can be communicated (Mouton, 2001, p. 165). I used an iterative process, which is to continually move back and forth between data collection and data analysis. Data is most commonly in the form of numerous pages of written words, which then needs to be analysed and interpreted (Petty et al., 2012). The first step in the analysis procedure was to engage with the recordings, as well as the transcripts of these recordings. Each interview transcript was read several times, and in some instances, it was read in conjunction with the audio recording. The second part of the process was done to start identifying emergent themes. This was done by highlighting similar responses from the participants. Each interview was read, and important comments were highlighted and noted in a column on the side of the transcript. These transcripts are available on request. Finally, once all the notes had been written down, I highlighted the most common responses and wrote them down on one board. Once this was done, I was able to categorise the responses into the five themes which will be discussed in chapter four.

"What counts as a theme is that it is something which captures the key idea about the data in relation to the research question and which represents some level of patterned response or meaning within the data set" (Jugder, 2016, p. 3). A thematic analysis is only significant if the researcher is clear about what they want the themes to represent (Willig, 2012). Therefore, I needed to make decisions about the epistemological orientation of the study. This type of analysis does not afford the researcher a strong theoretical foundation for their research; therefore, the researcher needs to do a lot of conceptual work before they can begin the research itself (Willig, 2012). Qualitative research takes place in the setting of the participants' natural environments, the researcher being the instrument of data collection; it looks at the meaning the participants are trying to convey and it is a holistic approach (Creswell, 2013).

"The generic qualitative approach can stand alone as a researcher's articulated approach" (Kahlke, 2014, p. 39). Generic qualitative research design "is not guided by an explicit or established set of philosophic assumptions in the form of one of the known [or more established] qualitative methodologies" (Kahlke, 2014, p. 39). Generic qualitative design does not fall within a specific and established methodology; therefore, it is in a broad category.

Researchers suggest that generic studies can be problematic as they "claim no particular methodological viewpoint at all" (Kahlke, 2014, p. 38). Thus, there is no established methodology followed, but rather a number of different aspects from different methodologies are used, whereby the researcher can decide which research designs and tools fit their epistemological position. Crotty (1998) states that "research can never be designed on a blank slate; rather, it always draws on and builds on the traditions and ideas that came before it, even if that lineage is unarticulated" (as cited in Kahlke, 2014, p. 39).

In looking at the data collection used, the semi-structured interviews were the most prevalent way of interviewing people. "Semi-structured interviews are conducted with a fairly open framework, which allows for focused, conversational, two-way communication. They can be used both to give and receive information" (Keller & Conradin, 2019). In using this type of data collection, I had prepared a set of questions in advance; however, the interview still remained conversational. Thus, I did not have to follow a specific set of questions in their correct order but could rather change the order and wording of the questions. This allowed me to give explanations when needed or leave out questions that may have already been answered.

3.5 ETHICAL CONSIDERATIONS

Before commencing with this study, I obtained permission from the University's Faculty Ethics Committee (Appendix B), ethical clearance number: 2017-074. Risks to the participants and any other person had to be clearly stated. In the study, I followed the procedures stated in the ethics form. All participants were given a clear picture of what the study was about and what they were required to do. They were also told that they could withdraw at any time and that a joint decision would be made on what to do with the data collected, upon withdrawal from the study. Confidentiality was ensured through the use of pseudonyms, and the identities of the participants were not revealed without their permission.

The Health Professions Council of South Africa (HPCSA, pp. 2-3) outlines some basic ethical principles:

3.5.1 The principle of best interest or well-being:

The principle of non-maleficence: risks and harms of research to participants must be minimised.

The principle of beneficence: The benefits of research must outweigh the risks to the research participants.

3.5.2 The principle of respect for persons:

The principle of autonomy: participants that are capable of deliberation about personal choices should be treated with respect for their capacity of self-determination and be afforded the opportunity to make informed decisions with regard to their participation in research. Therefore there must be special protections for those with diminished or impaired autonomy i.e. dependent and or vulnerable participants need to be afforded safeguards against harm or abuse.

The principle of confidentiality: A participant's right to both privacy and confidentiality must be protected. The researcher must ensure that where personal information about research participants or a community is collected, stored, used or destroyed, this is done in ways that respect the privacy or confidentiality of participants or the community and any agreements made with the participants or the community.

3.5.3. The principle of justice:

Justice imposes an ethical obligation to treat each person in accordance with what is right and proper. In research, this is primarily distributive justice whereby there should be equitable distribution of both burdens and benefits of research participation. It is an ethical imperative that the study should leave the participant and/or community better off or no worse off. Researchers have an obligation to justify their choice of research questions and to ensure that such questions are neither gratuitous nor result in the exploitation of study participants. The selection, recruitment, exclusion and inclusion of research participants must be just and fair, based on sound scientific and ethical principles. No persons may be inappropriately or unjustly excluded on the basis of race, age, sex, sexual orientation, disability, education, religious beliefs, pregnancy, marital status, ethnic or social origin, conscience, belief or language.

In this study, I took care to follow the guidelines as set out by the HPCSA. The participants remained anonymous as they did not have to put their names on the online questionnaire and although the interviews were face-to-face, I did not use any identifying information in the transcription of the interviews. The interview questions were semi-structured, which allowed for the principle of autonomy, as the participants were allowed to add in their own information, and if they wanted to leave the study they were allowed to at any time. Luckily all the participants who completed the online questionnaire completed the interviews. The school in which the study was done has also been kept confidential so as to protect the school, as well as

the participants. In terms of the principle of justice, all participants were treated equally and fairly. They were given the choice of when they wanted to do the interviews and they could do the online questionnaire in the comfort of their own homes. In terms of exclusion of sex, the only reason there were no male participants was due to the nature of the school having all female teachers in the Foundation Phase. Other than that, no participant was unjustly excluded.

3.6 TRUSTWORTHINESS OF THE STUDY

Trustworthiness is that quality of an investigation (and its findings) that make it noteworthy to audiences (Schwandt, 1997). Trustworthiness refers to the confidence or trust one can have in a study and its findings (Robson, 2011). The central feature of trustworthiness is to confirm that the findings accurately reflect the experiences and viewpoints of the participants, rather than researchers' perceptions (Kemparaj & Chavan, 2013).

According to Lincoln and Guba (1985), interpretivist studies must satisfy the criteria set for trustworthiness. These are credibility, transferability, dependability and confirmability.

3.6.1 Credibility

Credibility concerns the truthfulness of the data collected. To ensure that the data are credible, various research strategies may be used. The first is an extended period of data collection. The study was conducted over a period of two years. The second is the use of multiple data gathering methods. This study used two methods of data collection – an online questionnaire and 12 semi-structured interviews. Finally, 'peer debriefing' was carried out regularly throughout the data planning and gathering phases (Lincoln & Guba, 1985).

3.6.2 Transferability

The second criterion, transferability, refers to the generalisability of the study, whether there is enough information about the study to allow the reader to establish the degree of similarity between it and other cases to which the findings might be transferred (Schwandt, 1997). In this study, efforts were made to keep detailed notes and analysis of data collected from the online questionnaire and semi-structured interviews. Transferability within this study refers to how the findings can be applied to another study. Thus, in this research process, there were

variations in the age of the participants and, although they were all from the same school, their contexts were different due to previous schools they had taught at, as well as the training they had received. Therefore, if the same conditions could be created, the findings would then be relevant in any context (Guba, 1981).

3.6.3 Dependability

The third criterion, dependability, pertains to the rigour associated with the process of inquiry (Schwandt, 1997). Guba and Lincoln (1981) advocate the use of an audit trail as a means of ensuring dependability. An audit trail is a technique whereby the reader is taken through the process of the study, step-by-step, so that they can determine whether the process and conclusions of the study are trustworthy. In this study, the reasons and the processes taken in collecting and analysing data have been made explicit. This enables the reader to understand the path taken by the researcher and to decide if those actions taken were dependable. Dependability refers to the degree to which the reader can be convinced that the findings did indeed occur as the researcher say they did (Durrheim & Wassenaar, 2002, p. 64). As the researcher, I aimed to achieve this by using member checking and identifying themes that would be discussed with the participants, to ensure that they were dependable and accurate (Maree et al., 2007). I also used triangulation for data collected during the research process, which included the results of the online questionnaire, the semi-structured interviews and any field notes made during the study. This aided in searching for common themes to provide reliable findings. Furthermore, I strove to exclude any bias that might be brought to the study by constantly reflecting on the research process (Maree et al., 2007).

3.6.4 Confirmability

The final criterion, confirmability, refers to the degree to which the data and interpretations of the study are based firmly on evidence collected, rather than on the personal constructions of the researcher (Lincoln & Guba, 1985). Thus, in this study I remained objective towards the data I had collected. I analysed the data and I was neutral in finding the emergent themes. The themes came from what the participants said, and thus there were no assumptions made on my part.

3.7 CHAPTER SUMMARY

In this chapter the research design and methodology, the selection of participants, data collection, the research instruments used to collect the data and the statistical analysis of the data were all described. It also described the qualitative and interpretative nature of the study. The strategies used to ensure the ethical standards, reliability, validity and trustworthiness the study, were explained. In the following chapter, the findings of the research process are discussed.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION

In using the Thematic Content Analysis (TCA) approach to data analysis, one can look for patterns in the data collected. It is a descriptive presentation of qualitative data which identifies common themes in the texts provided for analysis (Anderson, 2007). The themes are grouped in a way that directly reflects the texts as a whole (Anderson, 2007). The researcher initially reads the data several times to gain familiarity with the complete text (Petty et al., 2012). The aim of this study was to investigate the misconceptions that mainstream Foundation Phase teachers have of ADHD. The main focus was on investigating the attitudes of the teachers who identify children with ADHD.

4.2 OVERVIEW OF THEMES

The analysis of the semi-structured interviews revealed five themes. These themes were derived by carefully analysing each participant's experiences and finding common responses.

The themes will be explored using an adapted version of Bronfenbrenner's bioecological systems theory. The themes are illustrated in Figure 4.1 below.

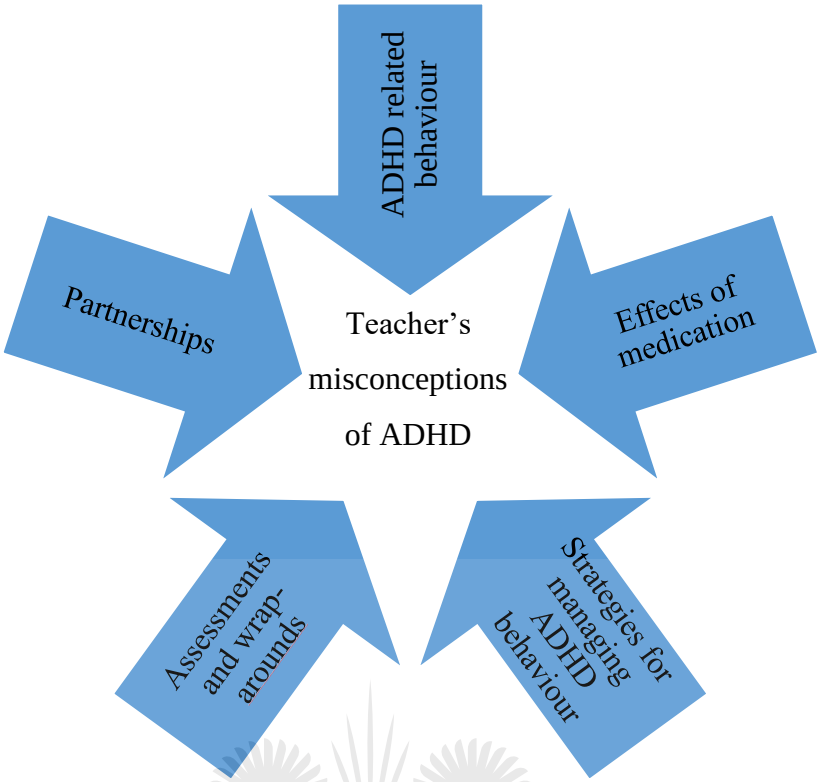

Figure 4.1: Five themes identified

4.3 ADHD RELATED BEHAVIOUR

The Oxford English Dictionary ("Behaviour", 2010) defines behaviour as "the way in which one acts or conducts oneself, especially towards others" and further defines it as, "the way in which an animal or person behaves in response to a particular situation or stimulus" . Dr. Russell Barkley describes ADHD as "a disorder of human self-regulation, the ability to control yourself and your behaviour" (Barkley, 2014, p. 2). Most of the participants described the children's ADHD related behaviour as, "*fidgety, disruptive, and battling to focus*". It was evident in the study that most teachers knew some of the "behaviours displayed" in the diagnostic criteria for ADHD as they were able to name them; however, they were not familiar with the *DSM-5*'s criteria and the prevalence rate. Most participants had the impression that ADHD is a problem with concentration; however, ADHD is more than just an attention disorder. ADHD is a neurological disorder; it is a "profound disruption in the uniquely human

ability to manage your own behaviour, so as to not be dependent on other people for self-regulation" (Barkley, 2014, p. 5).

When the participants were asked what they understood the diagnostic criteria of ADHD to be, most of them spoke only about the behaviours they saw in their classrooms. Participant six said, "*shifting constantly in their seats, never focusing, poor handwriting, can't follow instructions*". Even though she knew there was a 'list' which is the Conners form, she felt that: "*in my gut, I know what it is*".

Although these types of behaviours form part of the *DSM-5*'s diagnostic criteria for ADHD, the teachers did not know that there is so much more that goes into diagnosing a child with ADHD. They focused more on the types of behaviours the children displayed. Another participant (8) stated that she works according to the checklist:

> *I think being exposed to it in a classroom environment, you can automatically pick up a child that is exhibiting signs of ADHD. So, you might not be able to pinpoint it exactly but that's also where your checklist comes in because it can correlate what you've noticed and witnessed in your class according to what the criteria is of a child that is suffering from it.*

As mentioned earlier, the teachers focused on the behaviours and relied on the Conners form; however, a child also needs to exhibit these behaviours for at least six months and the manifestations of the disorder must be present in more than one setting (APA, 2013). Another teacher, participant four said, "*We usually call in a parent to talk to them because sometimes behaviour is something just happening at school and we need to see if it's a behaviour happening at home*". Children may sometimes exhibit certain behaviours at school because they are having difficulties with friends, parents, siblings or even with the teacher. A child who has had a fight with their parent or sibling on the way to school may display different behaviour that day and may appear to be distracted as they are upset about what happened. If a teacher is intuitive and can pick up on the fact that there has been a change in the child's behaviour then they should investigate what has changed in their home environment or school setting. Often children get upset by things which may seem insignificant to an adult, but to the child, it is a major upset for them.

Teachers are not trained in the field of identifying neurological disorders as it is not part of their programme or their field of expertise; however, they spend a lot of time with children and

over the years they come to be familiar with certain types of behaviours that are linked to these disorders, especially ADHD. A study conducted by Kern et al. (2015) showed that "teachers do not make a distinction between inattention and ADHD". They further stated that "this means inattentiveness, possibly caused by other factors, is identified by teachers as ADHD, without any of the other diagnostic criteria being applied" (Kern et al., 2015, p. 3054). Thus, when teachers attend workshops or training about ADHD, the causes of ADHD should be focused on as the trainers tend to focus on the behaviours exhibited but the underlying factors are not explained. Teachers are not trained to adequately screen for ADHD and are not given intervention strategies to help these children.

Teachers have a curriculum to get through and if they are dealing with a child who is displaying ADHD behaviours, especially the hyperactive type, their attention is focussed on those children and the other children tend to get left to complete the work on their own. Participant six said, "*They do distract others, so you are constantly over them and maybe other children get neglected due to that*". She further explained that she was strict with children being able to produce the work they are capable of and if they are distracted, she needs to be constantly over them to ensure that their work is done. Children with ADHD, the hyperactive type, are often a distraction in the classroom and the other children can sometimes get irritated with them. Participant two said: "*they could start losing confidence, and that has a knock-on effect. So their output would not be ideal*". The teachers commented on how ADHD children often irritate the children around them and have poor social skills. The other children tend to get irritated with them because they shout out, they interrupt conversations and they often cannot wait their turn. Participant twelve said that those with ADHD have "*poor social interactions in relationships with children*". She felt that ADHD children have less patience and can often display 'temper tantrums' when things are not going their way.

Higher functioning people with learning disabilities also experience challenges with quality of life. Houghton found that persons with attention deficit hyperactivity disorder (ADHD) continue to have problems interacting with others throughout their lifetime, stating, "the research evidence seems to suggest that mentors across all periods of development across the lifespan can be beneficial to those with ADHD" (2006, p. 270). Some of the behavioural problems that exist in children with learning disabilities may be because of a lack of sufficient

education and intervention programmes in their early childhood (Marini, Graf, & Millington, 2018).

The teachers in this study see a lot of different types of behaviour in their classrooms. However, children who they have identified as having ADHD, display disruptive behaviour such as being out of their seats, deviating from what the rest of the class is supposed to be doing, not following the teacher's instructions, as well as talking out of turn or shouting out. Some teachers even noted that the ADHD child gets aggressive towards their classmates or bother their classmates by talking to them or tying to copy their work. They also noted that the children tend to have a short attention span and are often too distractible.

Although the teachers noted all these types of behaviours, when asked in the interview if they knew what SCT was, none of them had heard of it. Despite the research, SCT has not been recognised in the *DSM-5* as a disorder. This, however, further indicates that although most teachers acknowledge these behaviours as ADHD, not every child who is hyperactive, inattentive or impulsive has ADHD. Teachers need to realise that ADHD children do not intentionally 'act out' and are often surprised by their own behaviour. Unfortunately, there is a misconception that children with ADHD should be able to control their attention and impulsive behaviour. They feel that if a child puts more effort into paying attention and controlling their impulsive behaviour, then they would be a better learner. Children tend to blurt out things or jump from task to task depending on their interest. Some children can also be disorganised or forgetful and some struggle to wait their turn, but this does not mean that they have ADHD.

4.4 EFFECTS OF MEDICATION

In a study led by the University of Exeter looking at "non-medication measures to support children with ADHD in schools, it was found that interventions which include one-to-one support and a focus on self-regulation improved academic outcomes" (University of Exeter, 2018). The paper found that different types of intervention excluding medication had a positive effect on academic outcomes. These interventions included one-on-one support and teaching the students to self-regulate.

ADHD is a chronic and distressing disorder primarily treated with medication (Safren, 2006). When the teachers were asked about the effect of medication, there were varying responses. Most teachers felt that medication only works for some children and was dependent on the child and the severity of their ADHD. Participant one said, "*Well I've seen it work and I've seen it not work … I have taught kids that have gone on medication and overnight they've turned a page; on the flip side, I've had kids have an adverse reaction*". This teacher noticed that some children's personalities have changed since going on medication. She felt that when the medication did not work, it played havoc with their emotions and this is not "*conducive to good work*". All medications have contraindications; thus, it is understandable that any ADHD related medication could have side effects for children. Participant five indicated that medication does work if it has been diagnosed properly but "*with some children it does not work at all*". She said, "*I had a child last year and her medication didn't actually do much, in fact, it made the child depressed*".

Medication is used to help manage the symptoms of ADHD. The most common medications used are stimulants as they increase the hormones in the brain which improve concentration and reduce fatigue. In the interviews, it was revealed by some teachers that the medication they were familiar with was Ritalin, which is a stimulant drug. Participant

six said, "*I've found Ritalin to be very good when a child has gone on Ritalin. It has literally been like switching on a light switch*". She further explained that she noticed the effects of Ritalin almost immediately and because of this would notice when the child had not taken their medication. Participant six said that when the children did not take their medication, they could not work, and their handwriting would change. Another participant had a bad experience in that the child became aggressive. Participant ten said, "*I've had one child where they've gone onto Ritalin and it made him so aggro that I had to call the parents in and say please take him back, he can't be on this*".

Medication needs to be administered correctly and it needs to be followed up. Sometimes the children 'outgrow' their medication and therefore the dosage might need to change, or the actual medication needs to be changed for the child. Too often it has been found that children are on the same dosage and same medication for several years, without having gone back to see their physician in order to ascertain whether it is still working. Participant one said, "*It's just a matter of finding the perfect dosage for the perfect need*". This statement showed that

the teacher is aware that in the beginning there is a trial and error period for putting an ADHD child on medication. Participant seven had personal experience with ADHD as her daughter was diagnosed with ADD. She said, "*it definitely works. I don't think it works for all children … I always maintain that if you don't see a drastic change in behaviour and obviously taking into consideration side effects"*. Participant seven felt that medication can work for some children and when it works *"their confidence and relationships have been improved"*. She continued to say that for children who have had no change after medication, there's *"no point"*. Many times, teachers and parents tend to think that medication will help solve the difficulties; however, if a child has not been given the correct dosage or if there are other underlying issues, no medication will help change their symptoms.

Children who have not taken their medication seem to become a distraction for the teacher and their peers; however, a child who does not take any medication could also be distracted depending on what is happening in the classroom or alternatively what is happening in the child's life at that particular time. Children are expected to sit and concentrate for long periods of time; however, a child who cannot sit still and concentrate is often 'labelled' as displaying signs of ADHD. There are many other areas that need to be explored before considering ADHD and how to manage ADHD type behaviours.

Medication has been used for many years to treat ADHD; however, no single treatment is the answer for every child. Sometimes a child experiences side effects to a medication that would make that particular medication unacceptable. "Research shows that medication is effective, but does not work for all children, and is not acceptable to some families" (University of Exeter, 2018). The participants noted that medication can work for some children, but they also saw when it did not work. Tamsin Ford, Professor of Child Psychiatry at the University of Exeter Medical School, said:

> Children with ADHD are of course all unique. It's a complex issue and there is no one-size-fits-all approach. However, our research gives the strongest evidence to date that non-drug interventions in schools can support children to meet their potential in terms of academic and other outcomes. More and better quality research is needed but in the meantime, schools should try daily report cards and to increase children's ability to regulate their emotions. These approaches may work best for children with ADHD by one-to-one delivery (as cited in University of Exeter, 2018).

In terms of treating a child with ADHD, each child's needs, as well as their personal history must be carefully considered. Although medication can help the ADHD child control some of their behaviour problems, it needs to be monitored as it takes time to work. In some instances, the teachers noticed an immediate effect, both negative and positive.

4.5 STRATEGIES FOR MANAGING ADHD

Children with ADHD, especially the hyperactive type, can be quite demanding of the teacher's time. Thus, teachers and children alike have to develop strategies in order to make their time in the classroom and at school, more bearable. The teachers need the children to behave and pay attention to what is being taught. If an ADHD child disrupts the lesson it has a negative impact on the rest of the class. Finding out a learner's background really helps a teacher to make sense of the learning and developmental picture a child is presenting in class. The same behaviour may have different causes (Decaires-Wagner & Picton, 2009). In providing teachers with strategies to manage the ADHD child, they can gain better control over their classroom and make the learning experience a pleasurable one.

"Learners, educators and parents must acknowledge and accommodate learning diversity. Just accepting that we all learn and develop differently is important" (Decaires-Wagner & Picton, 2009, p. 64). Participant eight believed that *"you've got to be open to what the child is going through"*. She was happy to incorporate different strategies, like the weighted blanket, yoga balls for them to sit on and allowing them to walk around the classroom or go off on an errand if they are distracted. She believed that this, *"brings them back to the task at hand"*. It is all about refocusing the child to tend to the task at hand or to pay attention to what the teacher is saying. When teachers were asked how they managed the daydreamers, most of them said that you had to refocus the child's attention, using eye contact and sometimes a gentle reminder by calling their name softly. Participant eleven said, *"I get a lot of eye contact with children"*. If we make eye contact with children, they tend to pay better attention to what we are saying, as we are actively engaging in conversation with them.

Some research has found that it is important for educators to begin focusing on implementing successful interventions in their classrooms (Geng, 2011). It is evident that some of the participants had read up on strategies for managing ADHD children in the classroom and are

trying different methods to assist learners who may be displaying ADHD symptoms. Participant seven said, *"So the strategies in my classroom are that when we're participating in the lesson, we must make links with what we are doing, we must make connections with what other people are saying"*. These are life skills – being able to listen to what other people are saying and being able to participate and make connections – it is all part of what we learn and how to have a conversation. This teacher gave them choices to work in small groups or to sit on their own. These choices allowed them to manage themselves with her guidance so that they could find what worked for them. "A positive teacher attitude is the key to a positive and productive learning environment and is achievable by enhancing students' socialisation" (Geng, 2011, p. 17). Participant eight said she made sounds around the children *"to draw away and I try to do it in a way that the other children don't pick up on it … just to zone them back into reality to where they should be"*. In this way, she did not make it obvious and embarrass the child, so that everyone in the class could see that the child was not paying attention. This is an example of a strong teacher-student relationship, which can make a difference in the success of a student. The teacher is also helping the child to stay on task instead of letting them fall behind because they have not followed the instructions correctly.

"Teachers who maintain a positive learning environment by establishing and maintaining clear student expectations not only support the developmental needs of their students academically but also socially and personally" (Geng, 2011). Participant three also gave the children opportunities to choose to be in a different place; for example, if they were all on the carpet and a child preferred to sit on a chair then she allowed that. She said:

> *Even someone who needs to fidget when they listen to a story, so I give them pipe cleaners, or a ball just to hold and they are absolutely fine. So, it's just to be sensitive to their needs and do it in a subtle way, the other children aren't affected at all by this if you are sensitive to it".*

When there is a good rapport between teachers and their students, most strategies will be successful. Participant three said:

> *I get them to make a sound effect in the story … or I actually posed a question and then just ask the child if she can answer. Not something tricky but something that would get her back to focus, so I would encourage participation.*

Keeping children engaged and interested lessens the chances of their getting bored and daydreaming. If they are made to feel part of the story or activity, it makes them feel important and they tend to want to please the teacher by doing everything correctly or to the best of their ability. Participant nine stated: *"you've actually got to find the time to find out where their interests lie"*.

Many parenting books advise parents to talk to their children at eye level and use eye contact as this will allow for better results when asking them to follow instructions. Participant seven believed in *"keeping things fresh and new and keep them engaged"*. As adults, we know that something that is repetitive, and routine can sometimes become monotonous and we tend to get bored. The same thing happens with children. We expect them to be engaged, but if they start acting out because they are bored, they are often seen as a child who may have ADHD. It is unfair to label children with ADHD simply because they cannot concentrate on a specific lesson. Children who do not do their work or are distracted may appear to have ADHD, but they may, in fact, be bored. They might have a good knowledge of a subject, but the work is not interesting (Decaires-Wagner & Picton, 2009).

There is no reason that children with ADHD cannot flourish in a regular classroom setup if they have teachers who try to understand their needs. By making adjustments within the classroom environment, the teacher can help the child manage their symptoms without making them feel punished or penalised. Although dealing with ADHD children is a challenge for teachers, the teachers in this study are flexible in their classroom management, as they move children to different seats, allow the children to participate often and if they need a fidget toy, they are given one. They try to make the learning environment as flexible as is allowable within the structured curriculum.

4.6 ASSESSMENTS AND WRAPAROUNDS

"Rating scales are valuable tools in both assessment and treatment monitoring" for learners who manifest ADHD symptoms (Conners, 1998, p. 24). However, caution needs to be taken as there can be rater errors. Separate scoring for the traditional DSM subtypes of ADHD allows both categorical and dimensional measures to be used in assessment and treatment monitoring (Conners, 1998). A Conners rating scales form is used to get an overview of a child or

adolescent's concerns or disorders. It is a checklist type questionnaire which parents, teachers and children fill in in order to get a better understanding of the child's behaviours and habits. The questions are aimed at emotional, behavioural and academic difficulties.

Participant one said that she would never diagnose a child, but would rather use the Conners list, *"I would notice that there are some common behaviours or concerning behaviours"*. Most of the participants noted that they look at the Conners checklist which they have been given by a doctor, psychologist or psychiatrist. Participant two said, *"there are a whole lot of things we'd have a look at from the Conners form and it's a variety of things like fidgeting, hyperactivity or the complete opposite; they are completely docile, not attentive"*. Most teachers use the Conners form as their basis for observing the children who may be displaying difficulties within the classroom. Participant nine said, *"Well we do have that checklist that we can refer back to but it's are they coping in class? Are they coping in their environment?"* Although the teachers use the Conners checklist as their basis, they are also aware of working collaboratively with the therapists and specialist teachers at the school. Participant nine acknowledged that they get feedback from the other teachers about what has happened in the day with a specific child and *"it's a whole child diagnosis not just one particular incident or situation"*. The teachers realise that there is more that goes into diagnosing a child with ADHD. The child needs to be observed over a period of time and in different settings. If the child is acting out in one specific class, it could be the result of many factors; for example, they are bored or do not have a good relationship with a particular teacher, or they may just find that particular subject difficult.

The concept of wraparounds is used in the school to get a 'full picture' of the child being discussed. The school's support team come together and discuss the child/ren at risk. Often, these children's names have been brought forward by a teacher who is concerned about the child's behaviour or academic difficulties. At times, it could be a therapist a child is seeing who calls the wraparound, as they want to see how the child is doing in the classroom situation or to get feedback from other professionals. Participant one said, *"you can kind of see if there's a glaringly obvious issue after which I would call a wraparound, to request that somebody else be responsible for the diagnosis because obviously I know I'm not allowed to"*. This participant was aware that for a child to be diagnosed they had to go through the right channels and that she was not allowed to tell a parent that their child had ADHD. The school where the study

was conducted has many protocols in place in terms of dealing with children with difficulties. The question was asked whether the teacher had ever recommended to a parent to take their child for an assessment for ADHD and participant one replied, *"not since I've been at this school, because there are so many protocols to follow"*. This showed that she may have done so in the past, but at the school she is now at protects the children and the teachers.

Teachers in this school are aware of the different procedures and protocols that are in place. These are for the safety of the children so that they do not get sent to a general practitioner on the request of the teacher. It also protects the teachers as there can be no comebacks in terms of the parents saying that the teacher 'diagnosed' their child and she was incorrect as the child does not have ADHD.

4.7 PARTNERSHIPS WITH TEACHERS, PARENTS AND THERAPISTS

"The establishment of School-Based Support Teams (SBST) occurs within ordinary schools where groups of experienced educators assist in managing first level support of diverse learner needs in collaboration with parents and outside professionals" (Fourie, 2017, p. 1).

In order to attend to the best interests of the children, it is a worthwhile practice for schools to have a multi-disciplinary team. They form partnerships with teachers, therapists, parents, doctors and the educational psychologists, which helps in making decisions about the way forward for children who are experiencing difficulties. Relationships between teachers and parents, as well as parents with therapists and doctors, all impact on the development of the child. "While the medical model focuses on the child's deficits, the social model maintains that it is rather the factors in the child's social context that make a significant contribution to the barriers of learning" (Fourie, 2018, p. 288). It is here that Bronfenbrenner's microsystems are seen to be working as a child's development is greatly affected by the links in their microsystem.

When asked what the teacher's thought the parents' role was and how they advised the parents, participant nine said:

> *It's got to be a team, you've got to work together with the parents so whatever is happening in class ideally you would like it to happen at home ... because it's pointless if it's happening only at home or only at school, it's got to be a partnership.*

She believed that if they taught the children to pack their own school bags at the end of the school day, then the parents needed to be on board and allow the children to pack their bags at home. This would teach the children responsibility for their own belongings and help them with their organisation skills, as they had to remember what needed to go home for homework. Participant four felt that parents were often defensive when it came to their children, and especially when the teacher had to tell them that their child was having difficulties at school. She said that sometimes parents felt that it was the teacher's fault. She felt that "*it is really important to get onto the same page, make the parents feel like they are on your team and you are working together to help their child*". Teachers need to be aware of the parents' feelings as they can become sensitive about what is being said about their child. Some teachers even bring in their own life experiences to help the parents understand and to make them feel that they are not alone in this journey. Participant one believed that if a parent has been told by a psychiatrist that their child needs medication, they must not look at the negative implications – she then related it to her son who has epilepsy. She said, "*I always try relate it to my son who has to have medication for epilepsy and if he didn't have it, he would have seizures. So I always try make it so they can kind of understand*".

Parental involvement is vital in helping ADHD students perform successfully in schools (Cole, Cowan, & Craigen, 2015). If the parents feel more welcome to participate in their child's schooling and learning, they may feel more comfortable to communicate with the teachers or staff involved with their child, about how the child behaves at home and how they learn. Training the parents to deal with ADHD children at home and at school helps the child as they are getting the same feedback in both settings and this produces positive results in their academic success and their social well-being. Participant one said, *"a large part of success of ADHD is that the parents have to be onboard and keep a good routine and structure in the home"*. She further noted that if some of the girls she has taught and still teaches had more structure at home, they would be able to cope better at school. She believes that organisation and good bedtime routines would help the girls cope better.

The key to success for any child experiencing difficulties at school is for all the people in the child's microsystem to be involved. Children need adults, especially their parents, to help and guide them. However, their parents must provide consistency and structure. If children feel that all the people in their lives are expressing the same things and have the same ideals, they will feel more secure and are more likely to succeed.

4.8 TRUSTWORTHINESS OF THE RESEARCH

The themes identified above developed from a detailed analysis of the interview transcriptions. Fourteen participants were identified in the school as meeting the criteria for this study; however, only 12 participated in the online questionnaire and semi-structured interview process. These participants were Foundation Phase teachers in a mainstream school where the study was conducted. They were identified by me, the researcher, as I wanted to find out what the Foundation Phase teachers' misconceptions of ADHD were. The principal of the school at the time called a meeting with all the Foundation Phase teachers and me and asked the teachers to please consider taking part in the study as it would benefit all parties. All of the teachers were happy to participate and signed the consent forms, except for two teachers who did not feel comfortable with being part of the study.

The initial online questionnaire took place over two weeks, as I allowed the teachers time to complete it in their free time in the comfort of their classrooms or their own homes. There was a problem with some of the questionnaires, as the participants were not able to complete it due to technical errors. This delayed the process a bit, but once the technical errors were fixed the remainder of participants were able to complete it. Once these results were in, I was able to refine the questions for the semi-structured interviews. These interviews took more time as the teachers were busy with tests and reports, so the interviews had to be at a time and date suitable to each participant. These interviews took place over a period of three weeks. Each interview was conducted for a period of one hour. Some participants, however, did not engage as much and the interview ended after forty-five minutes.

During each recorded interview I took notes to reflect on them, which proved to be helpful as the last participant's interview was lost halfway due to the recorder having stopped working. However, this did not affect the study as I had taken notes. I also communicated with my

supervisor and attended supervisions in order to gain direction and clarity on the emergent themes once the transcribing was complete. While the transcription process was in progress, I could ascertain themes that were present in each of the participant's interviews. The themes were identified using Thematic Content Analysis whereby I coded the data manually looking for similar comments and common themes. Through this process, several similar comments were identified, which I then wrote down and I was able to identify the five emergent themes.

While the participants had different experiences and knowledge of children with ADHD, common themes were easily identified by interpreting the meaning they offered about their experiences and their knowledge. The credibility of this study was maintained by reflecting and engaging with the data collected.

4.9 CHAPTER SUMMARY

This chapter aided in the discussion and elaboration of the themes that arose during the data analysis procedure. As each participant provided their knowledge and experiences on ADHD, it was evident that most of the teachers had a good knowledge base and have the children's best interests at heart. Each of these themes was discussed using relevant literature to substantiate the experiences and knowledge of these teachers of children with ADHD or ADHD-like symptoms. From the comprehensive discussion of the themes, it was evident that the teachers of this school did not have a negative misconception of ADHD, but rather they tried to help children and look at them holistically before making any suggestions to the parents.

This study is intended for the enrichment of teachers and those in teacher training to provide more in-depth training for teachers on all the aspects of identifying children with ADHD, as well as the realisation that there may be alternative reasons for a child displaying ADHD-like symptoms.

In the following chapter, I will summarise the study, discuss the strengths and limitations of this study, recommendations and possibilities for further research.

CHAPTER FIVE: SUMMARY AND RECOMMENDATIONS

5.1. INTRODUCTION

This aim of this chapter is to provide the reader with a comprehensive review of the research. In view of the experiences of the participants and the knowledge they have gained through these experiences, we have explored the misconceptions of mainstream Foundation Phase teachers of ADHD. In the following sections, a summary of the study is given along with a brief discussion of the value of this research, the recommendations for future training of teachers, as well as the limitations of the study. This chapter will also discuss areas for possible future research on this topic.

5.2 SUMMARY OF THE STUDY

This study aimed to explore the misconceptions of mainstream Foundation Phase teachers of learners with ADHD. The focus of the study was on addressing the research question "What are mainstream Foundation Phase teachers' misconceptions of learners with ADHD?"

The literature review carried out examined the relevant literature, as well as the theoretical framework applied in this study – that of Bronfenbrenner's ecological systems theory. This research on teachers' knowledge and misconceptions of ADHD was useful in enhancing the understanding of the participants' experiences and misconceptions. The school where the research was done is a private mainstream school. This school has protocols in place to help the teachers in identifying children who are having difficulties and the procedures used in involving parents and all other people within the child's microsystem, are clear and concise.

Thematic Content Analysis was used on the data obtained from the online questionnaire and semi-structured interviews that were conducted with each of the 12 participants who met the criteria. Once the interviews were completed, each interview was transcribed and analysed to identify emergent themes.

The first theme focused on the participants' experiences of ADHD related behaviours. The participants identified disruptive, impulsive and fidgety behaviour, as well as the lack of

concentration that ADHD children display. Most of the participants spoke about the hypo- versus the hyperactive child. They identified when a child needed extra help and when it was necessary to investigate further.

The second theme that emerged was concerned with the effects of medication. All participants noted that medication did make a difference; however, some found it had a positive effect, while others felt it had a negative effect on the child. Most of the participants appeared to prefer medication as the treatment for ADHD. They spoke about Ritalin, which is a common and well-known drug for ADHD. The participants' understanding was that ADHD has something to do with a chemical imbalance in the brain and the medications worked on that imbalance.

The third theme stemmed from the first two themes as they are linked. The participants noted that the child's behaviour, as well as medication, had an impact on how they managed the children within their classroom. The strategies used for managing ADHD were many and informative. The children were given time to go on errands to help them refocus. Some teachers made the children participate in the lesson by keeping them engaged or making them part of the lesson. Routine was seen as an important factor in helping the ADHD child manage their behaviour. If children know what is expected of them, they tend to behave appropriately.

Assessments and wraparounds was the fourth theme which emerged. The school has a system in place whereby the teachers call a wraparound for a child they are concerned about. They often go through the Conners checklist and look at all aspects of the child's work first, then take all that information with them to the wraparound where the previous years' teachers and the therapists are present. The child is then discussed and a decision is made on what needs to be explained to the parents. Afterwards, the teacher will set up a teacher-parent meeting and discuss the observations and suggestions made, for a way forward for their child. This theme leads into the fifth and final theme, which is partnerships.

Without the help of parents, teachers, therapists and doctors, a child who is at risk may not cope as they do not have support from everyone in their microsystem. Of the people in their microsystem, the parent is one of the most important as they often have the biggest influence over the child. If a teacher puts strategies in place in order to help the child, but the parents do not follow up or use the same strategies, this often leads to disappointment as the child has lost the structure and routine which the teacher worked so hard at putting into place.

5.3 CONTRIBUTION OF THE RESEARCH

The outcomes of this study make a valuable contribution to Bronfenbrenner's ecosystemic theory in that the themes were explored using the theory and showed that a child's microsystem is vital to their success and well-being. Although the theory is relevant, it does not explore all the other systems of Bronfenbrenner's ecosystemic model. As seen in Chapter Four, there is a connection between all of the themes in that each one leads into the other and they are all interconnected.

While the study was conducted in a mainstream independent school, these findings can also be useful at government schools. Teachers are the participants in this study which looked at their misconceptions of ADHD, and all teachers are very likely to teach ADHD children or children who display ADHD symptoms whether they are teaching in an independent or government school. Another contribution that these findings make is that teachers from other schools have seen how these participants handled the children with ADHD, as well as those experiencing other challenges. They used different strategies in their classrooms, and these could be used for any child in any classroom who perhaps on a particular day displays a different type of behaviour than normal. The findings of this study can further contribute to how other schools might put into practice the strategies and protocols employed by this school as the research site. The findings may also assist schools and teacher training facilities in developing educational and intervention strategies to assist their learners.

If teachers are trained, they will be better equipped to understand the full diagnostic criteria of ADHD and not rely solely on the Conners checklist. This could also help them understand that diagnostic criterion in its entirety and how different settings affect the child as well. The findings may also contribute to schools and their teachers realising their strengths with regards to the policies and attitudes that they already have in place. Like the teachers at this school, all teachers should be viewed as an asset as they, along with the school's protocol, have the children's best interests at heart.

5.4 IMPLICATIONS FOR FURTHER RESEARCH

The results of this study showed that although the teachers used different strategies to help children in the classroom, they mostly relied on the Conners checklist as their first port of call when assessing a child who was displaying ADHD-like symptoms. Thus, possible areas for further research include areas of theory in teaching teachers to correctly screen learners for ADHD to dispel misconceptions. This study can be replicated in a variety of different contexts to determine the extent to which these findings can be used in South Africa and globally. The study could also be replicated on a larger scale, involving more participants from more than one school; it could look at government schools and possibly special needs schools, as not all schools in South Africa are inclusive.

This research can be expanded by including Foundation Phase teachers from other mainstream schools and even government schools. Parents could also be included to see how they experience their child with learning challenges, as well as those who have been diagnosed with ADHD. This would allow us to get a clearer understanding of the experiences of a larger sample of teachers and parents who may be struggling with the diagnosis. Furthermore, when looking at the African perspective, this research could be extended to different African cultures and include their worldviews. Due to their having a different perspective on what a disability is and why children are born with disabilities, a study could be done around how they view ADHD, as well as what steps are taken to include or exclude these people from the community. The research could look at the link between the cultural and individual differences of disability. This may benefit the policy and curriculum makers in looking at inclusion in South Africa and how to adequately train teachers to deal with learning challenges and disorders as well as to be sensitive to the values inherent in different cultures and how they perceive ADHD.

5.5 LIMITATIONS AND STRENGTHS OF THE STUDY

The limitations of the study are those characteristics that may impact or influence the interpretation of the findings from one's research. The first limitation of this study is the sample size, as it was a small sample taken from one school. Thus, the findings may not represent the misconceptions of all Foundation Phase teachers. Second, the participants did not all agree to partake in the study, therefore making the sample size even smaller. The final limitation is that of the data collection as participants became frustrated with the online questionnaire when there

was a technical problem and they had to redo the questionnaire. The semi-structured interviews had to be done at a convenient time for the participants due to busy work schedules and time constraints, even though this delayed me as the researcher, to some extent. Another limitation involving the participants is that there were other participants identified who did not participate in the research, which meant that the findings could have had other themes that emerged depending on what the other participants' experiences and misconceptions were. Of importance here is that one participant was a graduate and her experiences may have been very different from those of the other participants who had been teaching for several years.

The findings of this study could be used as learning guidelines for first-year teachers or new schools who are still establishing their protocols. However, these findings could also be used for all schools in and around South Africa as ADHD has such a high prevalence rate.

An additional limitation of the findings of the study may be the familiarity between me, as the researcher, and the participants. As the participants are my colleagues, they may have been cautious in telling me how they run their classrooms and how they identify children with ADHD. Furthermore, the technical difficulties with the online questionnaire impacted on the amount of time in which to conduct the interviews; as this time was limited, it thus further impacted on the findings. Due to the participants and myself having heavy workloads and schedules, time to engage and reflect was limited. For those participants who had trouble with the online questionnaire, they had to rush to fill it in and this could have impacted on their responses in both the questionnaire and the interviews.

In terms of the design of the study, the strengths can be found within the methodology of Thematic Content Analysis and the use of both the online questionnaire, which was used to form the interview questions, and the semi-structured interviews. Thematic Content Analysis allowed me to interpret and to understand the meanings conveyed by each participant, thus allowing most of the information provided to be used in the data analysis process. This meant that there was a substantial amount of data available to analyse for emergent themes. The semi-structured interviews allowed the participants to feel more relaxed, as they were able to comment as much or as little as they felt comfortable with.

In looking at the implementation of the study, the strengths included the informal approach in the interview process. The participants could choose when they wanted to do the interview and

they could decide how in-depth their answers to the questions could be. This allowed them to feel comfortable and the flexible nature of the Thematic Content Analysis allowed for this, as themes could still be extracted from their comments.

5.6 CONCLUSION

Mainstream Foundation Phase teachers' misconceptions of ADHD appears to be varied. The findings in the study showed that some of the teachers have a sound knowledge of ADHD. However, some of the teachers' understanding of ADHD appeared to be limited to the behaviours displayed by the learners. They identified an inability to sit still, some saying that the children are "*bouncing off the walls*", inability to remain focused and concentrate long enough to complete their work. While some teachers acknowledged that there was a physiological basis for the disorder, they viewed medication as the primary intervention strategy, not considering the environmental factors that affect the disorder. Other teachers were aware that there are other reasons for the children's barriers. They identified emotional upsets, diet, and in some cases, inadequate parenting styles. In exploring the results, there was no significant negative misconception of ADHD. The teachers mostly spoke from personal experience with learners who they have taught who had ADHD or who have children of their own with the disorder. In saying that, some teachers still did not look at the 'whole' child in terms of Bronfenbrenner's bioecological systems theory.

Based on the findings of this study, recommendations were made to address the teachers' training, so as to better equip them in screening children for ADHD. The study could also be done on a larger scale to determine whether the teacher training curriculum needs to be adapted in order to help teachers better understand ADHD and possibly other learning disorders. By training teachers and equipping them with the necessary tools to recognise a child with ADHD, including knowing and understanding other possible reasons for the child's behaviour, this could dispel any misconceptions that many teachers have of ADHD.

The limitations of this study were documented, as this study only represents a small sample of mainstream Foundation Phase teachers and does not represent all the experiences of all teachers in similar settings. However, this study provides a guide for future research on the level of teacher training in the country and possibly worldwide. Teachers may also not have any idea

how different cultures view ADHD. They would need to be made aware of the different belief systems, especially if they teach children who come from different cultures – this is useful so as not to offend the parents' belief system possibly when advising them about their child. It may also benefit the research if it is extended to teachers working in special needs schools, as well as parents of children with or without challenges. It may be found that teachers working in a special needs school will have little or no misconceptions about ADHD and their related disorders, as they are trained to identify and work with children who have varying difficulties; however, this would need to be explored. A further contribution of this study is how important Bronfenbrenner's bioecological systems theory is, as a child develops due to the interactions between them and their environment.

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APPENDIX A: ETHICAL CLEARANCE

NHREC Registration Number REC-110613-036

UNIVERSITY OF JOHANNESBURG

ETHICS CLEARANCE

Dear C Ballossini

Ethical Clearance Number: 2017-074

Exploring mainstream foundation phase teachers' perceptions of attention-deficit/hyperactivity disorder

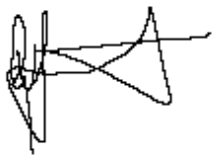
Ethical clearance for this study is granted subject to the following conditions:

- If there are major revisions to the research proposal based on recommendations from the Faculty Higher Degrees Committee, a new application for ethical clearance must be submitted.
- If the research question changes significantly so as to alter the nature of the study, it remains the duty of the student to submit a new application.
- It remains the student's responsibility to ensure that all ethical forms and documents related to the research are kept in a safe and secure facility and are available on demand.
- Please quote the reference number above in all future communications and documents.

The Faculty of Education Research Ethics Committee has decided to

☒ Grant ethical clearance for the proposed research.
☐ Provisionally grant ethical clearance for the proposed research
☐ Recommend revision and resubmission of the ethical clearance documents

Sincerely,



Prof Geoffrey Lautenbach
Chair: FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE
12 September 2017

APPENDIX B: CONSENT FORM

SECTION C: Information for participants on ethical procedures

(to be used as part of the informed consent process)

Faculty of Education - Research Project Information

Exploring mainstream Foundation Phase teachers' misconceptions of Attention-Deficit/Hyperactivity Disorder

Background to the study including the nature of the research

South Africa has an inclusive educational system. As a result, schools are open to children with varying abilities and needs, thus the teachers face significant challenges in meeting the needs of all their children in their class. Teachers have to cope with more learners with diverse needs, such as those with Attention-Deficit/Hyperactivity Disorder (ADHD). Teachers often lack the knowledge and understanding of ADHD, including its aetiology, treatment and management options.

I, Chantelle Ballossini, am doing research on teachers' perceptions of learners with ADHD. Research is the process whereby we gain more information by attempting to understand your personal experiences and perceptions of ADHD. In this study, I would like to learn about your experiences with ADHD learners and how they influence your teaching and classroom management. I invite you to participate in this research study as I would like to gain insight into your experiences as a teacher, working with learners who may have or have not been diagnosed with ADHD. Through the online questionnaire as well as the individual interview, I hope to develop a comprehensive and accurate description of your experiences and perceptions. The information you give could help enrich the teacher training of future teachers and their understanding of ADHD.

Intention of the project

Research associated with this project attempts to:

The research associated with this project attempts to investigate the perceptions of mainstream foundation phase teachers of learners with ADHD. In particular, I would like to investigate the attitudes of the teachers who identify children with ADHD.

Procedures involved in the research:

Potential Risks

Your participation is voluntary. It is unlikely that there will be any harm or discomfort associated with your participation in this study. However, if at any time you feel uncomfortable and do not wish to continue with the research study, you may choose to withdraw from the study.

Potential Benefits

My expectation for this research, is that it will benefit the teaching profession by providing more information about the extent of the teachers' knowledge of ADHD, which could be further useful in the future training programmes, as well as assist in classroom management.

Informed consent

We recognize that participants are not capable of consent unless "informed". We have, therefore, disclosed the nature of the research, the aims, the duration, the risks and benefits, the nature of interventions throughout the study, compensations where appropriate, researcher details, and details of the ethical review process. Where appropriate, communities, employers, departments and other instances are also part of the informed consent process.

Confidentiality

Every effort will be made to protect (guarantee) your confidentiality and privacy. I will not use your name or any information that would allow you to be identified. In addition, all data collected will be anonymous and only the researchers will have access to the data that will be securely stored for no longer than 2 years after publication of research reports, or papers. Thereafter, all collected data will be destroyed. You must, however, be aware that there is always the risk of group or cohort identification in research reports, but your personal identity will always remain confidential. You must also be aware that if information you have provided is requested by legal authorities I may be required to comply.

Participation and Withdrawal

Your participation in this study is voluntary. You may withdraw your consent to participate in the project at any time during the project. If you decide to withdraw, there will be no consequences to you. Your decision whether or not to be part of the study will not affect your continuing access to any services that might be part of this study.

Future interest and Feedback

You may contact me (see below) at any time during or after the study for additional information, or if you have questions related to the findings of the study. You may indicate your need to see the findings of the research in the attached consent form.

Chantelle Ballossini
Inclusive Education Student
University of Johannesburg

Dr Jean Fourie
Educational Psychologist
HPCSA: PS0058378
Lecturer, Department of Educational Psychology
Faculty of Education, University of Johannesburg

SECTION D: Signatures required for consent/assent

(for all participants, parents, guardians and other stakeholders)

Informed Consent/Assent Form

Project Title:

Exploring mainstream Foundation Phase teachers' misconceptions of Attention-Deficit/Hyperactivity Disorder

Investigator: Chantelle Ballossini

Date:

Please mark the appropriate checkboxes. I hereby:

☐ Agree to be involved in the above research project as a participant.

☐ Agree to be involved in the above research project as an observer to protect the rights of:

- ☐ Children younger than 18 years of age;
- ☐ Children younger than 18 years of age that might be vulnerable*; and/or
- ☐ Children younger than 18 years of age who are part of a child-headed family.

☐ Agree that my child, _____ may participate in the above research project.

☐ Agree that my staff may be involved in the above research project as participants.

☐ I have read the research information sheet pertaining to this research project (or had it explained to me) and I understand the nature of the research and my role in it. I have had the opportunity to ask questions about my involvement in this study. I understand that my personal details (and any identifying data) will be kept strictly confidential. I understand that I may withdraw my consent and participation in this study at any time with no penalty.

☐ Please allow me to review the report prior to publication. I supply my details below for this purpose:

☐ Please allow me to review the report after publication. I supply my details below for this purpose:

☐ I would like to retain a copy of this signed document as proof of the contractual agreement between myself and the researcher

Name: .....

Phone or Cell number: .....
e-mail address: .....

.....

Signature: .....

If applicable:

☐ I willingly provide my consent/assent for using audio recording of my/the participant's contributions.

☐ I willingly provide my consent/assent for using video recording of my/the participant's contributions.

☐ I willingly provide my consent/assent for the use of photographs in this study.

Signature (and date): .....

Signature of person taking the consent (and date): .....

* Vulnerable participants refer to individuals susceptible to exploitation or at risk of being exposed to harm (physical, mental, psychological, emotional and/or spiritual).

APPENDIX C: EXTRACTS OF TRANSCRIPTS

Interviewer: What do you understand the diagnostic criteria of ADHD to be?
Participant 1: Well you know, an inability to concentrate but for me typically, I think of it more as an over-activity. Typically, for me it more of an over-activity., I think it harder to notice the ones that are sort of hypoactive. So typically with ADHD. When they can't, focus it's often accompanied with an irritable type of behaviour: disruptive behaviours. Those are actually the easier ones to pick up and to diagnose. And that's typically what I think of when I think of an ADHD child. I think of an over-activity. I think of them being fidgety and naughty and distractful and looking around. And maybe chatting or moving a lot because they can't actually focus on the task.
Interviewer: Ok. What are the effects or impacts of children with ADHD in the classroom?
Participant 1: OK well, the number one thing is that they are probably not going to complete the work. And my job at the end of the day is just to make sure that they've covered everything that they were supposed to cover. Just the minimum and the biggest concern is that they're not going to get that work covered. It doesn't matter if I mention a name hey? Because you are only listening to it.
Interviewer: Rather don't.
Participant 1: Ok. Um, you know I Think that's the biggest concern for me. I'm thinking of-
Interviewer: Ja.
Participant 1: And I'm just saying it because this is the thing. It's not a problem I can cope with the disruption because I can- I have to micromanage her yes. You're always going to be micromanaging that poor child and its keep putting them back in place, keep putting them back on track, keep getting them onto the next task, My biggest concern is then that they're not going to complete the work that is required. And I can't send them up to the Grade having not completed that work. So that is where I feel I've got to address it somehow. I can't just leave it. So I will find them disruptive. I will find them unable to finish tasks. I'll find that they can't work next to someone. It's too much to expect the girl next to her to stay focussed with that child being so unfocused. With her lack of focus. Very talkative- work will often be messy or bitty; not ever really done completely.
Interviewer: Does medication work or not? Explain.
Participant 1: Well I've seen it work and I've seen it not work. Um, there have been- I have taught kids that have gone on medication and overnight they've turned a page. They've become focussed. They're able to complete work, and the stress is off of them and the sense of accomplishment that they feel like I'm on top of it. Like I've got through everything today is so positive for their self-esteem that I would swear by it. And then obviously on the flip slide, I've had kids that have had a very adverse reaction. It changes their entire personality. They become someone they're not. They can't control their emotions, so one problem becomes replaced with another. Now maybe they're weepy, or they feel depressed. They go into a dark space, and I don't really think that's conducive to good work anyway. So yes there are definitely. And I've had some that have been through all the different ones. And each different one seems to have a different reaction on the child. So it's just a matter of finding the perfect dosage for the perfect need.
Interviewer: How do you identify a child who has not taken medication?
Participant 1: Typically an ADHD child who has not taken their meds, they will arrive here straight away hopping, jumping; over-active, completely out of their tree if I can just use terminology like that. You can almost tell, and the funny thing is that so often they'll run straight in and tell you proudly because they know they almost want to pre-empt that they're going to get into trouble. They almost want to tell you that I'm not going to be right today so don't expect anything of me. But definitely, it's that's they can't get organised they can't pack their bag. Their friends I sometimes notice they get a bit nervous because they can see this child is a little bit too bouncy. It becomes scary because they don't know how to handle it. They don't know what to do. Because it's not what they normally are, they are not in control.
Interviewer: How does ADHD manifest in your classroom?
Participant 1: Just that over-activity, that inability to concentrate. Inability to complete work or tasks. Just like spontaneous outbursts. They would be boisterous, just disruptive to the others in the classroom.
Interviewer: Have you ever recommend to a parent that their child should consult with a doctor or professional with ADHD?
Participant 1: Not since I've been at this school because there are so many protocols to follow. So you know here we are very protected because once we've had that- we would never recommend that they would go to a doctor. I've never said to a parent: take your child to get medication. Because I know how taboo that is and I know that I'm not qualified to diagnose that at all, ever. Parents have often asked me: do you think my child needs medication. And then I've said, you know if you are asking me that question then perhaps you need to pursue that with your

GP or someone in the know. Because if you're asking me, and they are having difficulty concentrating then maybe it's worth pursuing. But I've never said, on my word, no. No.
Interviewer: What strategies do you use to help children manages their symptoms?
Participant 1: Well like I said more often than not you'll find they sit alone because they can't- because of their lack of focus it's better that they sit alone. Invariably they'll sit at the front, so I'll keep an eye on them at all times. I don't know if it's necessarily a strategy they require a lot more structure and management than other kids who can be left to their own devices. Um I mean we do use a lot of different intervention type things like maybe the movement balls or the movement chairs or whatever and I often think that if a child needs something I'll add it in. Not to say that it's right or wrong, but we do try different things for sure. At this stage, if a child struggles to organise, I may cut their worksheets and stick their worksheets in. I may do their dates for them or draw their cats for them the night before to give them a step ahead, because then at least I can get the work done, even though the setting up had to be done by me. It's just a way of giving them a framework to work in. And I often use checklists. Have you done this and this and this on their desks. Just to remind them of the stuff that they ordinarily would have- that the others just remember, but they don't.
Interviewer: Should children be labelled as having ADHD? How does the stigma of the label influence their behaviour or responsibility towards their learning?
Participant 1: There probably was terrible stigma before, but what I find is quite nice about now is that it seems like everybody has something. We get what we get. And it's all fair, and there doesn't seem to be- well at least in this environment, there is not a stigma in going to: speech therapy, OT, needing a clutch, needing a movement chair, needing a ball, needing a this. I like that because it just seems that everyone kind of accept that everybody's different and that we all get what we need, and we get what we get. I don't think that there's a massive stigma attached to it anymore. I don't. I think we're very inclusive these days.
Interviewer: Ok. Is it the attention deficit or the hyperactivity that's most disturbing in your class?
Participant 1: The hyperactivity is more disturbing than the attention deficit. It is far more disturbing to the other kids and more demanding of you as a teacher. Unfortunately, the attention deficit ins more detrimental to their academic progress. So yes, it's definitely the hyperactivity that's the most draining, that's the thing that you're addressing all the time.
How do you manage the daydreamers?
Participant 1: That's what I was saying, the daydreamers it's almost harder. It's almost harder to diagnose those ones. It's almost harder to reel them in. Because the ions that are bouncing off the walls, they've got the energy; you notice them. The daydreamers you sometimes don't even realise that they've gone off into a dream world until you realise that they've skipped five steps of their work. I find it difficult, but it is just that once you know that you've got a dreamer in your class, you'll keep calling her name. You'll keep bringing her back. You'll use a checklist Or say: are you with us? Have you done that? Can we carry on? It's really just more of an awareness. Once you know, they're dreaming you'll keep them on the same page.
Interviewer: Have you heard of Sluggish Cognitive Tempo as an alternative diagnosis to ADHD?
Participant 1: No, I've never heard of that.
Interviewer: What is the parent's role and how do you advise parent regarding their child's ADHD.
Participant 1: I think a large part of the success of ADHD is that the parents have to be onboard and keep a good routine and structure in the home.
Interviewer: What are the effects or impact of children with ADHD in your classroom?
Participant 2: I think sometimes they would miss a lot of the input. Um, it sometimes affects their behaviour. So the other children could get irritated with them because they could become disruptive. They could start losing confidence, and that has a knock on effect. So again their output would be ideal.
Interviewer: What do you understand the diagnostic criteria of ADHD to be?
Participant 2: Well I think there's a whole list, I know from the Conner's Forms. So there are a whole lot of things that we'd have to look at from the Conner's form. And it's a variety of things like fidgeting, hyperactivity or the complete opposite: they are completely docile, not attentive. So we look at those criteria on the Conner's List, but we don't make that diagnosing. We just fill that in and then that will go to the neurologist or psychiatrist.
Interviewer: What is the effect or impact of children with ADHD in your classroom?
Participant 3: Basically, it can be very disturbing for others, or they get disturbed easily. But I found that if I give them an opportunity to choose to be in a different- to sit on a chair when everyone is on the carpet, I don't make it like a punishment- rather just be a comfort thing. And then they do that, and it honestly does help. Even some who needs to fidget when they listen to a story, so I give them pipe cleaners, or a ball just to hold and they are absolutely fine. So, it's just to be sensitive to their needs and to do it in a subtle way, the other children aren't affected at all by this if you are sensitive to it.
Interviewer: How do you manage the daydreamers?

Participant 3: That often occurs, in just about every class I've had a daydreamer and then sometimes I just get them to make a sound effect in the story. And then they suddenly come to know if there's an animal sound- I try and attract the attention in general and then they sort of come out of it. Or I actually posed a question and then just ask the child if she can answer. Not something tricky but something that would get her back into focus. So, I would encourage participation.
Interviewer: Have you heard of Sluggish Cognitive Tempo as an alternative diagnosis to ADHD?
Participant 3: I'm quite sure that would be very interesting to study because basically it's just- you think it's a lazy brain or whatever but it's actually not. Maybe their processing is just very slow, and it's another aspect to learning that we haven't actually identified yet.
Interviewer: What are the procedures you use in the school or in the class in diagnosing a child with ADHD?
Participant 4: Can I ask a question?
Interviewer: Yes
Participant 4: Has it got to do with me here or a previous-
Interviewer: Wherever.
Participant 4: Ok usually with diagnosing a child we usually call in a parent and talk to them because sometimes a behaviour is something just happening at school and we need to see if it's a behaviour happening at home as well. From then we'd recommended they go to an educational psychologist to do different types of testing and to wait for a result. To see. because as teachers we're not actually allowed to diagnose a student with ADHD or any other learning problems. Even though we're very familiar with what characteristics they might be.
Interviewer: What is the parent's role? How do you advise parents regarding their child's ADHD?
Participant 4: Parents play a very big role with regards to that because it's their child obviously. A lot of parents don't like to hear that there's something wrong with their kid and are very defensive when it comes to that and often it becomes the teacher's fault because they can't handle it. It's important to really get onto the same page- make the parents feel like they are on your team and you are working together to help their child. And also, they must- you mustn't just give parents problems. You must come to them with a solution as well because then they feel like there is hope for it and hope for their children.
Interviewer: Does medication work or not and explain?
Participant 5: In my opinion, some medication does work if it's diagnosed properly, but with some children, it doesn't work at all. I had a child last year, and her medication didn't actually do much. In fact, it made the child depressed.
Interviewer: Have you heard of Sluggish Cognitive Tempo as an alternative diagnosis to ADHD.
Participant 5: No.
Interviewer: What do you understand the diagnostic criteria of ADHD to be?
Participant 6: Well, I've seen that list that comes around. But in my gut, I know what it is. It's shifting- are you talking about ADHD or ADD?
Interviewer: ADHD.
Participant 6: Shifting constantly in their seats, never focussing, poor handwriting. Often very poor focus on anything, can't follow instructions. Um, all those types of things. It's not a normal fidget. It's actually almost climbing the walls, swinging off the chandeliers, that type. And that's the kids you notice. The other ones you might even forget they're there at the end of the day because they're self-absorbed whereas these are getting major attention.
Interviewer: What are the effects or impact of children with ADHD in your classroom?
Participant 6: Well, unfortunately, the effects of having them in the classroom they do distract others. So that is a problem because they're always wanting the attention, or they're needing it constantly. So, you're constantly over them, and maybe other children get neglected due to that. Um, you know it's also quite trying on your patience when you're constantly trying to tell them what to do because they've got to produce work and I'm very strict like that. They need to produce what they're capable of, so it takes a long time to get it done.
Interview: Does medication work or not? Explain,
Participant 6: Well, I've found Ritalin to be very good when a child has gone on Ritalin. It has literally been like switching on a light switch. You literally pick it up the next day when they do go on it, it is different, and they obviously go onto a smaller dose to start and then they increase it but I literally can tell the next day, or you can tell that they haven't had it. Strattera doesn't think has been successful for the children that I've seen. I haven't found it works; I know it builds up in the body etc. I think its Strattera that does that and I've found that that is very difficult. It builds up, builds up, but we haven't had much success with that. With the children that I'm teaching.
Interviewer: Does medication work or not and explain?

Participant 7: From personal experience, I had a daughter with ADD, and it definitely works. I don't think it works for all children and I do think that it's got to be bells and whistles. I always maintain that if you don't see a drastic change in behaviour and um obviously taking into consideration side effects. I mean if a child is on medication of sort and they are experiencing headaches, or they're not sleeping, or they're losing weight which is often a side effect. Then no, it's not working. Having said that you've got to give it time. You've got to give the body time, and it's got to be bells and whistles. I've had experiences with children that have gone on medication, and there hasn't been a change and then what's the point. Other children, it's been day and night, and they're so much happier. Their confidence and relationships have been improved.
Interviewer: What strategies do you use to help children manage their symptoms?
Participant 7: With, you know, little tips like I don't have a hand up in my classroom. So we put our hand out as we do for philosophy or we just throw ideas out, and in my space, it's about respect. So if you're talking somebody else mustn't talk, but you're welcome to call out what you want to say. I don't like the hands up in the classroom because you do have that ADD kid who wants to speak, who wants to express. They can't hold on. And sometimes it's not even related to the topic. So the strategies in my classroom is that when we're participating in the lesson, we must make links with what we are doing, we must make connections with what other people are saying. Let's take turns we need to be respectful/. And I mean those are life skills, whether you've got ADD or not. Other things I do, I do give children the opportunity to sit in a group or sit on their own or sit on the carpet. So I think it's very important to have choices for those children because at the end of the day they need to manage themselves. But they can't do it themselves. They need a teacher to assist them in finding the things that work for them.
Interviewer: Ok. Have you heard of Sluggish Cognitive Tempo as an alternative diagnosis to ADHD?
Participant 7: No I've never heard of that.
Interviewer: What strategies do you use to help children manage their symptoms?
Participant 8: I think you've got to be open to what that child is going through. So I mean you could incorporated those weighted blankets or something like that. Or have them hold something that soothes them. There's also those cushions with the balls on them, the beads on them. Maybe your yoga balls just to help them. If they need something to bounce on. Get them to walk around the class or take a wander if they just need to get out to bring them back to the task at hand.
Interviewer: How do you manage the daydreamers?
Participant 8: I've got to constantly snap them out of their daydream. I make sounds around them to draw them away and I try to do it in a way that the other children don't pick up on it. So I will be a snap of the finger, I'll call their name or I'll get them to stand up. Just to zone them back into reality to where they should be.
Interviewer: How do you manage the daydreamers?
Participant 9: I love the day dreamers [laughs]. I've got a little one who has an obsession with snakes. So she's got her little snake book that she's in the process of writing. And when she needs to get out her little snake book or make a little drawing or do her drawing or just bring her book to school, then she's allowed to do it. I think you've just got to incorporate it into your lessons you can't ignore it. You've actually got to take the time to find out where their interest lie. SO daydreaming about something specific.
Interviewer: What are the procedures that you use in your classroom when diagnosing a child with ADHD?
Participant 9: Well we do have that checklist that we can refer back to but it's are they coping in class? But it's, are they coping in the environment? The structure of that particular classroom and then you often get feedback from specialist teachers, what has happened during the day and then is a whole child diagnosis not just one particular incident or situation. If that makes sense. Ok that's it.
Interviewer: What is the parents' role? How do you advise parents regarding their child's ADHD?
Participant 9: It's got to be a team- you've got to work together with the parents so whatever's happening in class ideally, you'd like it to happen at home. So if they've got to pack their bags and makes sure they are ready at the end of the school day then the parents have to be on board an allow the little one then to pack her lunch possibly at school. Because it's pointless if it's happening only at home or only at school it's got to be a partnership.
Interviewer: Have you heard of sluggish cognitive tempo as an alternative diagnosis to ADHD?
Participant 9: No. Sluggish Cognitive Tempo. No I haven't.
Interviewer: What is your personal experience of ADHD?
Participant 10: Result wise or children wise or-
Interviewer: What do you know of children that you've had?
Participant 10: I've had one child where they've gone on to Ritalin and it made him so aggro that I had to call the parents in and say please take him back he can't be on this. Yes, some children have a big appetite loss, it works beautifully for others in that you see it within a day. And others, maybe not Ritalin but maybe one of the other medications. And I've see children progress from getting threes and fours to getting sixes and sevens. You know their whole behaviour changes. Academics and everything.

Interviewer: How do you manage the daydreamers?
Participant 11: Listen! Wake up! Where are you? [laughs] No um, I just try to involve them more with those cues and also, I get a lot of eye contact with children. And then also bringing them closer to you. And also for time management, I use hourglasses - the minute glass. So I did have two that were ten minutes and twenty minutes. So that they could visualise the amount of time - the ones broken [laughs].
Interviewer: Have you heard of sluggish cognitive tempo as an alternative diagnosis to ADHD?
Participant 11: No
Interviewer: What do you understand the diagnostic criteria of ADHD to be?
Participant 12: Um, I would think poor concentration obviously being the first one. Poor sleeping habits, poor diet, poor social interactions in relationship with children. A short fuse, these are children that are not great at problem solving. They would just scream and shout and perform and often just temper tantrums. Ja and not getting their work done in the academic environment and classroom environment. So being very busy. If that's the hyper. The hypo: similar other characteristics, heir sleeping their diet that kind of thing. Just not the bouncing around.

APPENDIX D: TURNITIN REPORT

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APPENDIX E: Language Editing

Ruth Nicola
Sandton
South Africa
12 September 2019
Herewith confirmation of my language edit of the following:

'Exploring mainstream Foundation Phase teachers' misconceptions of Attention-Deficit/Hyperactivity Disorder'
By **CHANTELLE BALLOSSINI**
Submitted in partial fulfilment of the requirements for the degree
MAGISTER EDUCATIONIS
In EDUCATIONAL PSYCHOLOGY
In the FACULTY OF EDUCATION
SUPERVISOR: Dr JV FOURIE

Kind regards
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